

Running Water

B-515



GOULDS
EVER-OILED
WATER SYSTEMS

GUARANTEE

We guarantee to replace any pump which has not given satisfactory service within two years from date of delivery to consumer.

Goulds *Ever-Oiled* Pumps are guaranteed to be free from defects in material and workmanship during this two-year period.

The only restrictions we place on these two statements are: —

1. Pumps must be installed and operated in accordance with our complete Instruction Book accompanying each pump.
2. Guarantee Acceptance Postal Card must be returned to us (completely filled out) at the time the outfit is installed.
3. The guarantee is void if pump has been altered or repaired, subjected to misuse, accident or freeze-ups, or if it has been operated beyond factory ratings.

This is a liberal guarantee—one which no other manufacturer has cared to make. It is your protection. Think what it saves in service calls.

GOULDS

Ever-Oiled Ball Bearing Pumps

RUNNING WATER

for

Farms

Suburban Homes and Estates

Country Clubs

Public and Private
Institutions

with the new

GOULDS **EVER-OILED**

Shallow-Well Water Systems

Catalog No. 17

(1930's)

GOULDS PUMPS

Incorporated

Main Office and Works

SENECA FALLS, NEW YORK

BRANCHES

*BOSTON
194 Congress Street

*NEW YORK
16 Murray Street
and 19 Park Place

*PHILADELPHIA
111 N. Third Street

*CHICAGO
12-14 S. Clinton Street

TULSA
213 East Archer St.

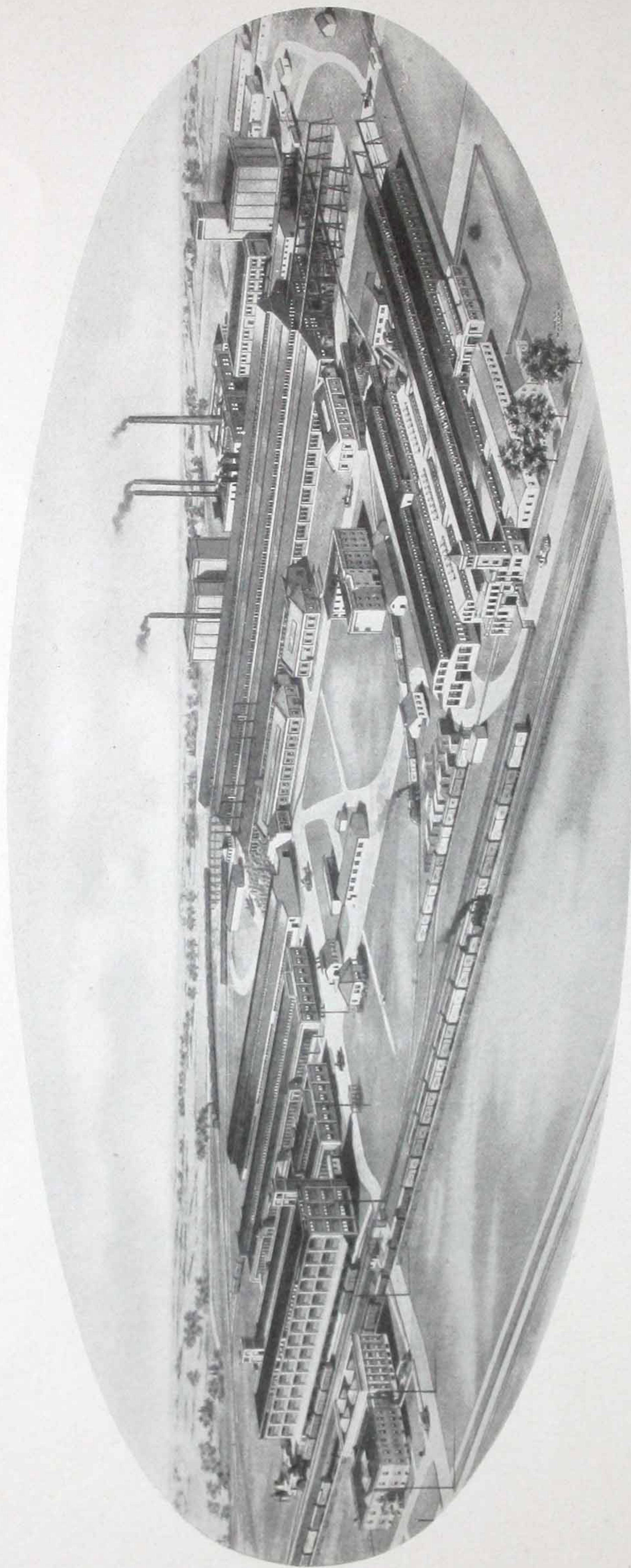
ATLANTA
Citizen's & Southern Bank Bldg.

CLEVELAND
627 Union Trust Bldg.

PITTSBURGH
636 Henry W. Oliver Bldg.

HOUSTON
1902 Second National Bank Bldg.

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Birdseye View of the Goulds Plant—World's Largest Plant Devoted Exclusively to the Manufacture of Pumps

Since 1848 Goulds has helped to solve water supply problems for hundreds of thousands of farm and suburban homes, schools, hotels, factories, and municipalities. Its entire plant is devoted to the building of one product—pumps. Today, Goulds operates the world's largest pump plant—its steady growth the result of 82 years of leadership in the pump field.

GOULDS SHALLOW WELL WATER SYSTEMS

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Why Every Home Should

FROM the day that life began, water has been a necessary and important element in the survival of mankind. In fact, water properly harnessed, becomes a force of the most vital power, not only in protecting the health and habitation of those who control it, but in advancing the progress of humanity through industry.

Let's go back to grandmother's day—or even further—way back to Biblical times, when an oasis in the desert or a hole dug in the sand sufficed to furnish the water supply for an entire family, and livestock.



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Water supply of Old Testament days. The spring from which Elijah drenched the altar. Still in use today. Suppose you had to get your water supply this way

Strange as it may seem, even today, there are countries where methods of securing a water supply as primitive as these, still exist.

But as man became more civilized, discovered how to make tools and learned how to use them, his methods of obtaining and controlling his water supply improved.

As far back as 312 B.C., engineers of the great Roman Empire discovered that they could transport to their capital city, the cool, fresh waters from distant mountains miles away, by means of aqueducts. Later, came the well and the old-oaken bucket, followed by the hand-operated suction pump. And as power-driven pumps were invented, cities and towns developed their own municipal waterworks, with every home having its running water practically in unlimited quantities.

But in spite of modern improvements and conveniences, there are localities today, beyond the city



© by Underwood and Underwood

"Open plumbing" in the days of the Roman Empire. This aqueduct still stands, to-day, a remarkably preserved monument of Roman colonization in Spain

and village water mains, where old-fashioned, time-wasting and back-breaking means of obtaining a water supply are still in existence.

Here is a home with a family of several youngsters, and a mother burdened with the necessity of many bathings, not to mention large and numerous washings. Day after day she must pump and lug pail upon pail of water, until her back is about ready to break and life has become just a source of constant drudgery.



Wash day without running water, ends up with aches and pains. A Goulds EVER-OILED Water System does away with this

Have Running Water

All year 'round, it's the same—with winter bringing added hazards and discomforts. Often a path must be shoveled out to the pump through heavy snows. In zero weather, a kettle of hot water must be carried along to thaw out the frozen pump. And then come risks and dangers of exposure, while journeying back and forth between the cold outdoors and the hot, steaming tubs.



Save yourself from this dangerous risk to health by installing a Goulds EVER-OILED Water System

Backaches—colds—sometimes pneumonia—and often a rundown physique. Is it any wonder that under such conditions a woman becomes old before her time?

Then there is the man of the family, with his livestock to water, his milking equipment to sterilize, his barns to clean, his silage to moisten and his truck garden to sprinkle when the season is dry.

Hundreds of gallons of water, day in and day out—and every gallon must be pumped, carried and dumped. And then, when the day's work is done, and he's tired, hot and dusty, feeling the need for a bath—this man must do still more pumping, heat his water on the kitchen stove and lug it to the bathtub.

These are but a few reasons why every home should have running water.

There is, of course, the ever-present menace of fire.

What would the chances be of preventing a severe fire loss, if buckets of water had to be pumped and carried to "put out" the blaze? Yet an ordinary garden hose carrying water under pressure could check the fire at its start, in the space of a few minutes.



The modern bathroom. No buckets to lug. A turn of the faucet brings all the water you need

Then there's the problem of health and sanitation. Running water, coming from its source in safe, clean pipes is not exposed to a dust and germ-laden atmosphere.

There is no lugging to do. No trips to an outside pump in rainy weather or bitter cold. Live stock barns can be flushed out with a hose. Milking equipment can be sterilized in hot flowing water.

On the farm, the suburban estate, in summer cottage or camp, and at the country club, running water is no longer a problem. It's there, always available—with all the conveniences and safety of city water. And the new Goulds EVER-OILED Water Systems will supply it, at small cost and with little after attention.

With Goulds EVER-OILED Water Systems, there is little reason, today, why every home should not have running water.

How and When to Use Shallow Well Pumping Outfits

THE shallow well type of pump, as the name implies, is used for pumping water from shallow wells, cisterns, springs, streams, lakes, or wherever the total suction lift does not exceed 22 feet. By the term "total suction lift" we mean actual vertical lift in feet from the water surface at low level to the pump suction inlet PLUS any pipe or fittings' friction there may be, measured in feet of head. (See page 50.)

Shallow well pumps cannot be expected to lift water more than 22 feet at sea level. For altitudes above sea level, reduce this 22 feet by one foot for each thousand feet above sea level. Therefore, if the vertical distance from the pump suction to the low level in the source of supply is greater than 22 feet, less any deduction for elevation above sea level or friction due to long lengths of pipe or pipe fittings, the pump must either be installed at a lower elevation, closer to the water level in the source of supply, or a deep well type of pump installed. (See Goulds Deep Well Catalog.)

Care must be taken to determine how much water the well is capable of producing. There is always the possible risk of installing a pump with a capacity greater than that of the well. (Have the well tested.)

The shallow well type of pump can be placed in any convenient location at a reasonable distance from the source of supply. It is customary, however, to place shallow well pumps where it is handy to care for them, and in a place where they will be protected from freezing.

The diagrams on pages 54, 55 and 56 show several typical shallow well installations.

The first two paragraphs describe certain limitations placed on the suction side of shallow well pumps by the laws of Nature. If the friction loss in the suction pipe plus the actual measured vertical lift exceeds twenty-two feet, there are several things which may be done to enable the use of shallow well pumps. Use the next larger size pipe. Move pump closer to source of supply and have more pipe on the discharge side. Eliminate elbows and fittings in the suction line so far as possible. Substitute gate valves for globe valves.

"Goulds Autowater Systems—Installation and Instruction Book" describes these various problems very clearly, in detail. Ask for a copy. Or fill in

the Information Blank sent with this catalog. We or any of our dealers will be glad to help you select the right outfit for your needs.

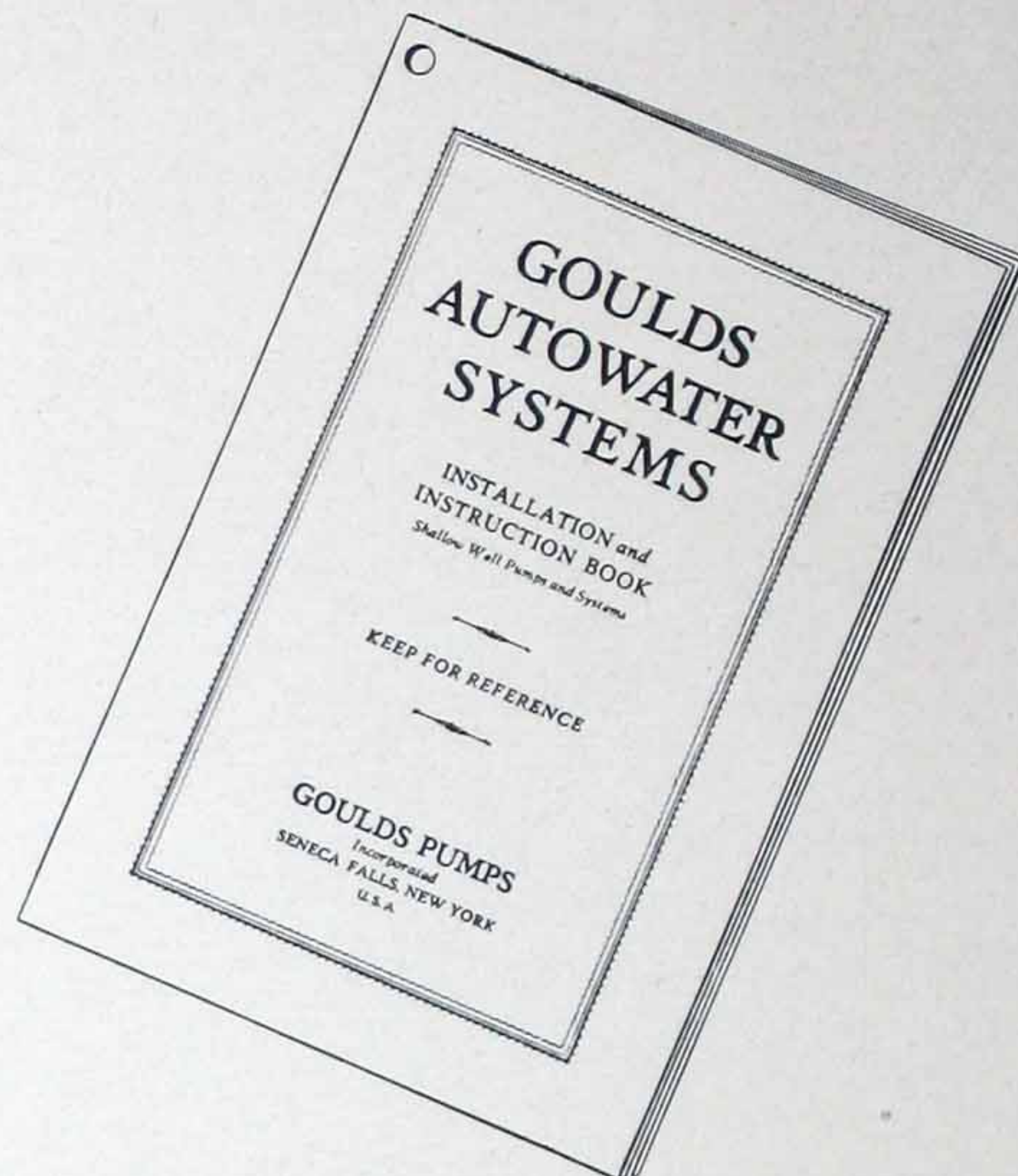


Fig. 1. Autowater Systems Instruction Book

Goulds complete pressure tank systems have pressure regulators set to start the pump at 23 pounds and stop it at 43 pounds—maintaining enough tank pressure for nearly all uses. If you plan to use an EVER-OILED pumping unit do not place the tank more than 15 feet above the pump (including pipe friction). For the larger capacity power pumps—Goulds "Improved Pyramid" type—you may place the tank not more than 25 feet (including pipe friction) above the pump, and more if you use the proper size motor. The "Improved Pyramid" outfits listed here are for discharge pressures of 43 pounds with an allowance of 25 feet. If the tank is to be placed at a greater elevation than 25 feet above the pump, ask us for our recommendations.

Specifying the System

When selecting a water system, in order to be sure that the system is the right one for your needs, it is first necessary to know the quantity of water required each day. The size of the pump and the

GOULDS SHALLOW WELL WATER SYSTEMS

storage tank depend upon the average daily water requirements; the maximum amount of water to be used in one hour, and the desired storage capacity. From the table on page 49, these estimates can easily be figured out and the pump capacity chosen accordingly.

For Fresh Water or Soft Water

For small homes of from 5 to 8 rooms, summer cottages, filling stations, camps, yachts, etc., where fresh water direct from the well, stream or lake is desired, without storage, and the capacity does not exceed 210 gallons per hour, Goulds EVER-OILED "Freshwater Jr." W-40 will give excellent service. A turn of a faucet starts the motor and cold, fresh water is pumped directly from its source. The Outfit W-40 also makes an ideal outfit for soft cistern water supply. And why not have running soft water as we have running drinking water?

Storage Tank Service

For small houses where storage is desired, and where the hourly requirement does not exceed 210 gallons, Goulds EVER-OILED W-205 will supply reliable performance.

Where both fresh water direct-from-well for drinking and cooking, and storage supply are desired, we recommend Goulds EVER-OILED System W-48. No better outfit can be found for this service.

If it is desired to locate the pumping unit at the source of supply and place a storage tank in the basement or other location at a distance from the pump, the very best outfit on the market is Goulds EVER-OILED Outfit W-200 with the pressure switch mounted on air chamber as used for Outfit W-48, in connection with the storage tank size you desire. With the pressure switch located on the large tank air chamber at the pump, it is not necessary to run wires from the motor to the storage tank where the pressure switch would normally be located. This affords large withdrawal capacity with the switch and pump properly cushioned at the least expense.

For the medium size house of from 9 to 12 rooms where the water requirements include kitchen sink, toilet, lavatory, bath and shower, laundry tubs, barn or garage, and limited sprinkling, and the capacity does not exceed 420 gallons an hour, Goulds EVER-OILED Water System W-405 is recommended.

The large farm, suburban estate, country club, school or other institution using large quantities of water, will require a large capacity outfit. For such service, Goulds "Improved Pyramid" Water Systems, Fig. 1741, are recommended, or a hook-up of

two Goulds EVER-OILED pumping units to one storage tank, as shown on page 32.

For adequate fire protection or for unlimited sprinkling, it is advisable to use a pump with a capacity of not less than 400 gallons an hour, inasmuch as a $\frac{1}{2}$ -inch hose uses 200 gallons of water an hour and a $\frac{3}{4}$ -inch hose from 275 to 300 gallons.

Pump and Motor Outfits

In this catalog is listed a number of standardized complete systems and pumping units. But where the need arises for a water supply system, a circulating or transfer pumping unit, an industrial or other pump which is not listed as standard, we have provided adequately. Goulds EVER-OILED Outfits W-200, W-207, W-400, W-407, the engine driven units R-201, R-202, R-401 and R-402 and the "Improved Pyramid" line are basic pumping units. Supplied with the necessary accessories these outfits will meet most exacting requirements, for the type of service for which you desire a pumping unit.

Just a Word

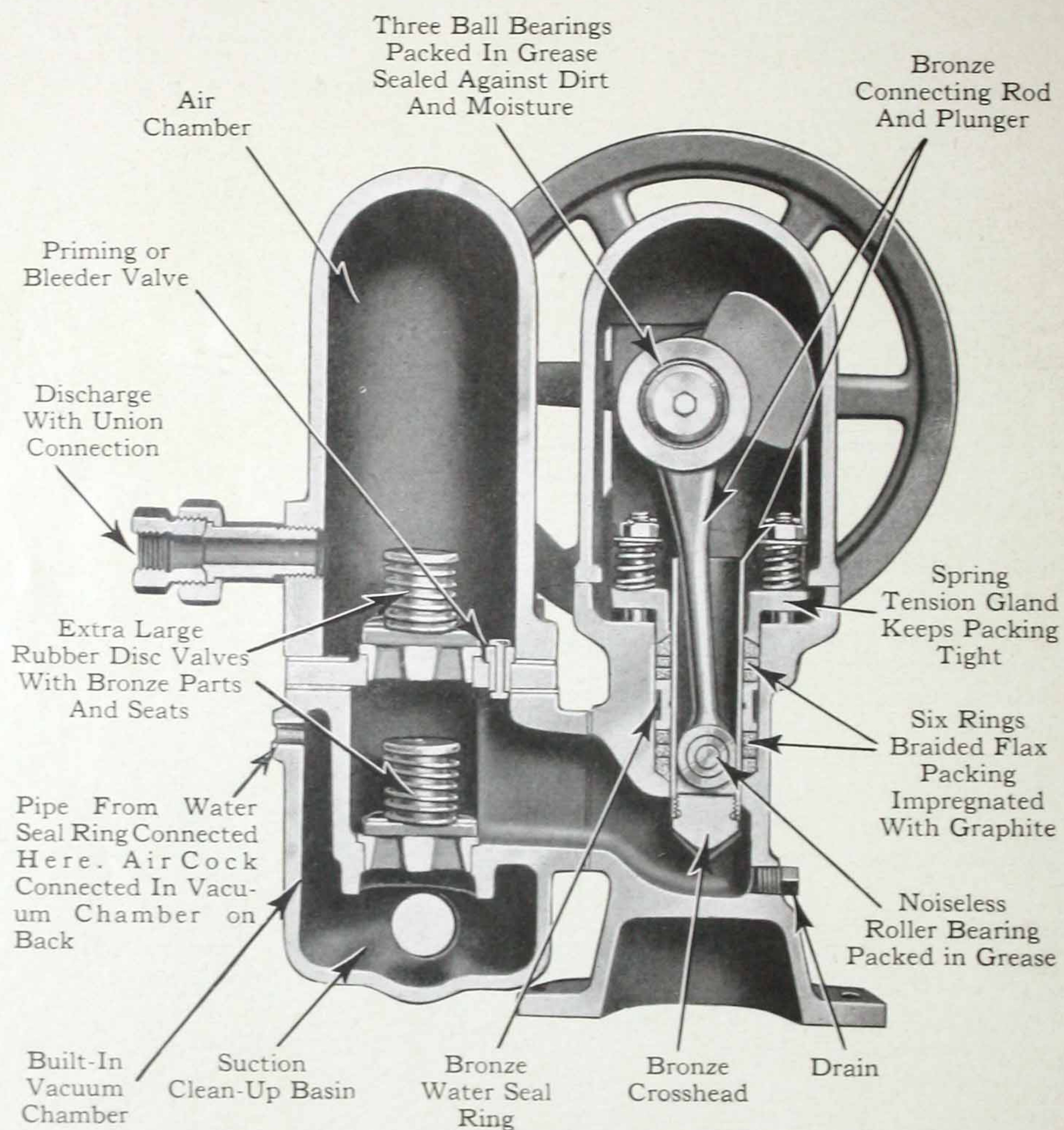
Let us point out to you, very frankly, this one idea. While we have listed in this catalog a wide range of pump and motor units as well as complete systems from the smallest to the largest, we do not believe it is wise to install the smallest outfit that will just fit your needs. Conditions change. Families and herds grow. The outfit you select today may be too small tomorrow. Therefore, select a capacity which will not be too small in a short time. For example, if the present conditions call for an outfit of 210 gallons per hour, consider carefully whether it would not be wiser to install one of 420 gallons per hour, and so on. Perhaps it would be better to spend a little more now and save needless loss later on. If impossible to buy a larger outfit now, consider adding a duplicate pumping unit to use the same tank. Or buy the W-40 now and add a large tank later.

Use Information Blank

No matter what your water supply needs may be, there is a GOULDS Water System that will adequately meet your requirements.

You can help us to recommend the most suitable outfit for your particular water problem if you will carefully answer the questions on the Information Blank in the back of this book.

Remember, your answers to the questions and the information we send you place you under no obligation to buy.



Sectional View of EVER-OILED Pump

What You Should Know About Goulds **EVER-OILED** Ball Bearing Pumps

WITH many vital improvements in its design, construction and working principles, Goulds EVER-OILED Pump is, today, the most outstanding pumping unit ever devised for water supply.

Like the automatic refrigerator, this new EVER-OILED Pump meets the modern demand for automatic home equipment that is attention-free and trouble-proof. It can be installed and forgotten—and it will run for years with the same ever-dependable, satisfactory service.

Let us take the EVER-OILED Pump apart and study the points of superiority which enable us to *guarantee this pump for two years.*

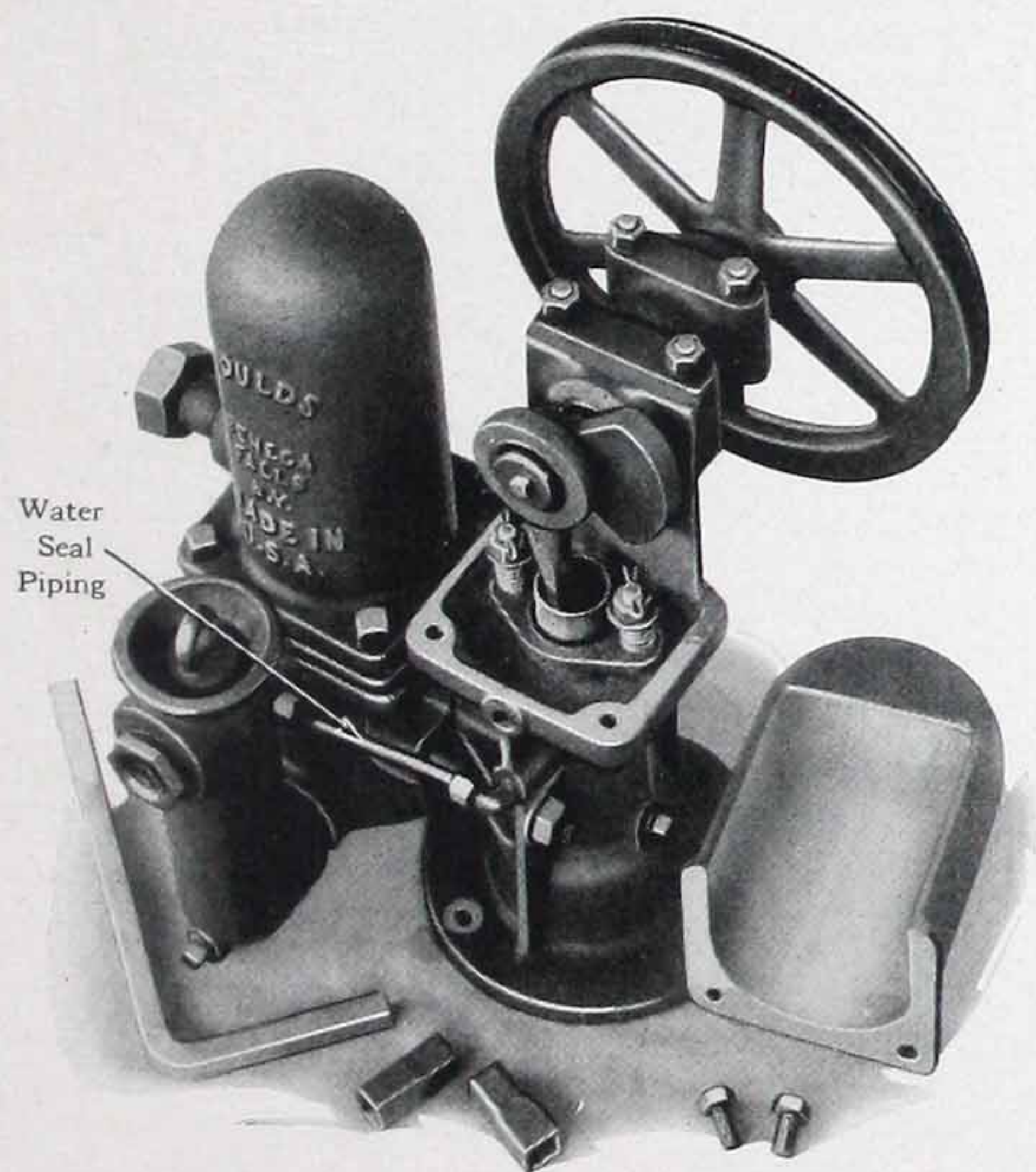


Fig. 2. EVER-OILED Pump with Hood Removed

All Working Parts Enclosed

Over the pump cylinder is a protective hood to keep the crank arm, connecting rod, gland and plunger free from foreign matter which might injure the pump's working mechanism. Merely unscrew two bolts, and this hood comes off. The entire plunger assembly is readily accessible. With plenty of unhampered work room, the stuffing box can be repacked easily. No delicate, complicated parts to

handle and perhaps damage or misplace. All necessary tools are supplied in their handiest form with the pump.

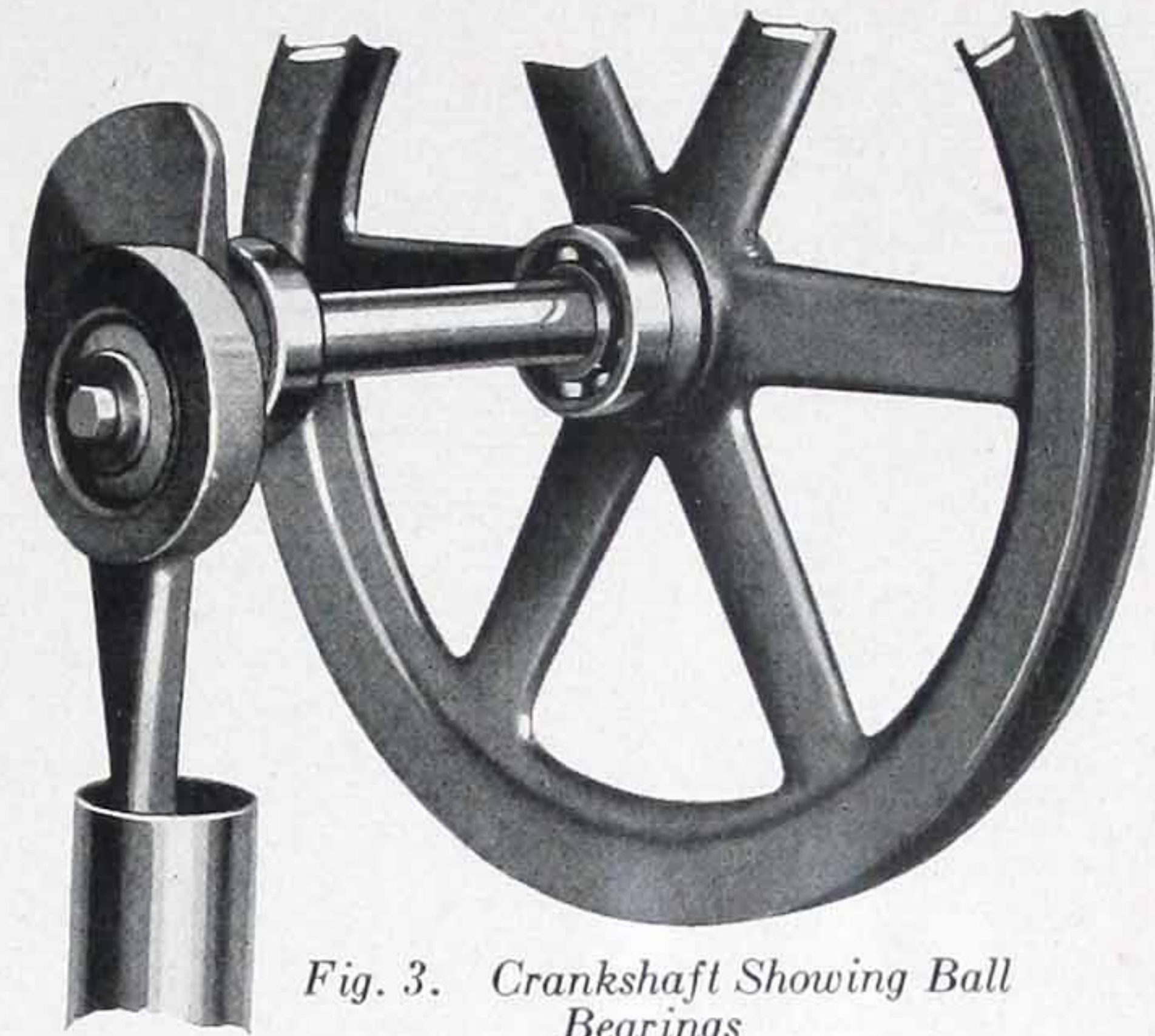


Fig. 3. Crankshaft Showing Ball Bearings

Lubricated for Life

By unscrewing four cap nuts the bearing cap is removed, exposing to view the crankshaft and crankshaft and connecting rod ball bearings. At the factory these ball bearings are sealed in grease, protected from dirt and moisture. They are lubricated for the life of the pump.



Fig. 4. Ball Bearing Assembly

Ball Bearing Construction

The two ball bearings on the crankshaft and the fully sealed connecting rod ball bearing not only add

GOULDS SHALLOW WELL WATER SYSTEMS

years to the life of the pump but insure smoother, quieter, trouble-free operation. Again we want to emphasize the fact that this ball bearing assembly, lubricated for life at the factory, never needs any further attention.

Leak-proof Construction

A certain amount of leakage is necessary in any pump, to act as a lubricant for the plunger. But in the EVER-OILED Pump none of this leakage gets outside the pump or around the floor. The water necessary for lubrication is carried back to the vacuum chamber and does not spill out. A water seal ring and a spring tension gland prevent this leakage from becoming excessive.

Bronze Water Seal Ring

As mentioned above, stuffing box leakage is controlled by the phosphor bronze water seal ring, where it is collected and carried back to the suction through the water seal piping shown on Fig. 2. This water seal ring also acts as a guide for the plunger and thus lessens wear on the packing.

Spring Tension Gland

The EVER-OILED gland construction, a feature not found on any other water system pump, automatically tightens the packing and takes up any wear that may occur. This prevents leakage around the plunger or sucking in of air to air-bind the pump. Another advance in attention-free equipment. Most glands have to be tightened frequently by hand.

Large, Accessible Stuffing Box

Six quarter-inch square packing rings go in the stuffing box with the water seal ring in between. Made of soft flax impregnated with graphite to insure years of service with little appreciable wear, the rings stay soft, and prevent air coming in or water leaking out of the plunger case. Stuffing boxes are over two and one-quarter inches long.

No Small Leather Crimps

The reciprocating movement of the EVER-OILED Plunger is not dependent on small leather cups for satisfactory service. Leather cups dry out quickly—and since piston crimps must fit perfectly to pump water, small leather crimps need constant servicing. As described above, the EVER-OILED Pump has a

liberal stuffing box with outside packed plunger and soft flax packing rings instead of leather crimps. Hence the long, continuous, attention-free service from this pump.

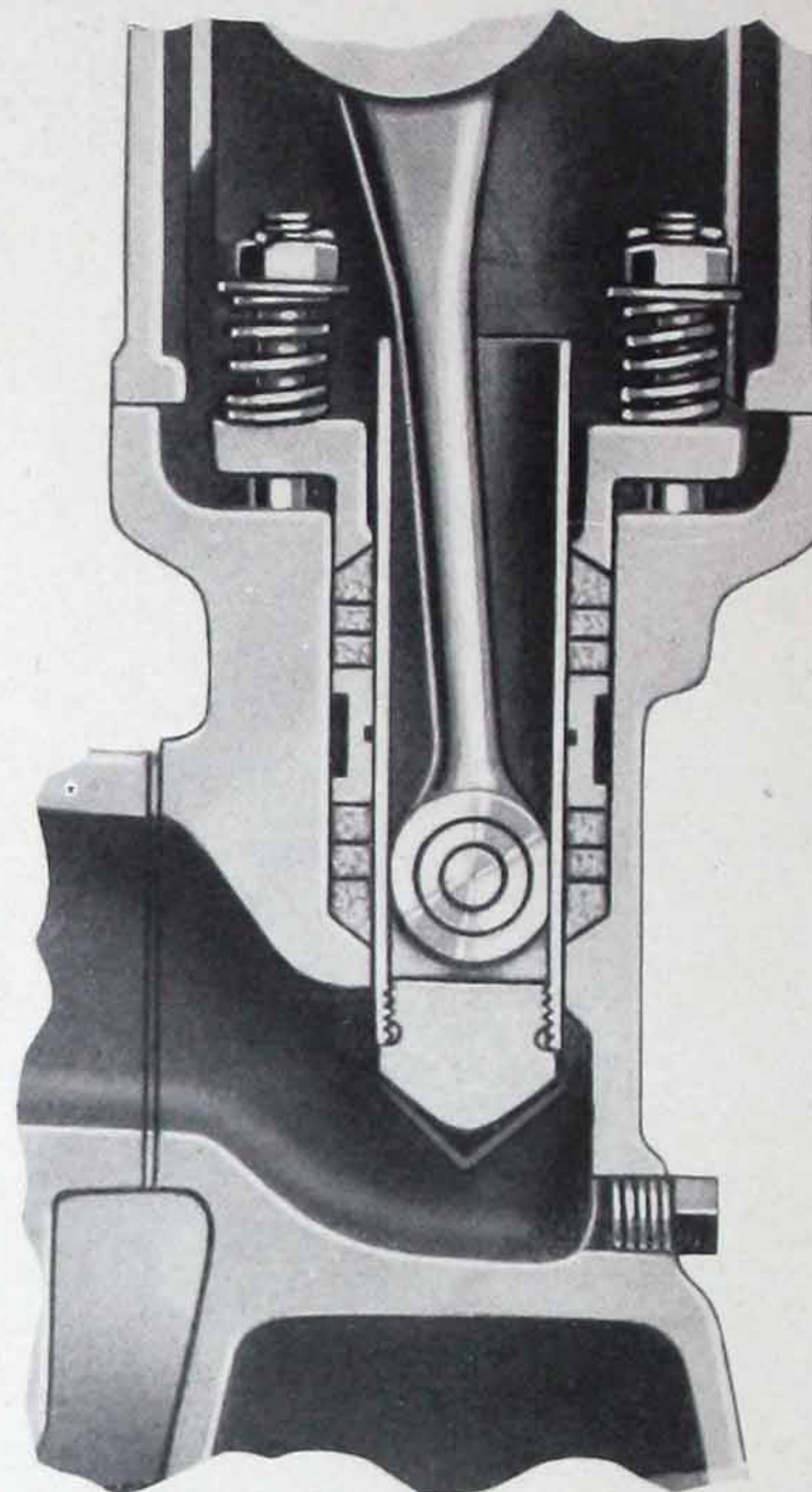


Fig. 5. Enlarged View of Stuffing Box as shown on Page 8

Bronze Connecting Rod and Plunger

Compare the length of the new Goulds EVER-OILED plunger assembly and connecting rod with that of other pumps. The exceptional length of the stuffing box, connecting rod and plunger give a sure vertical movement to the plunger without side-play or side-pressure to cause wear. The bronze construction assures greater strength and longer wearing qualities. A noiseless roller bearing, hardened and ground, packed in grease—lubricated for life—joins the plunger to the connecting rod.

Valve Assembly

Loosening the four bolts on the air chamber, exposes the valve assembly. The valves in Goulds EVER-OILED Pump are of more liberal design and more durable construction than those of any other pump. Their very simplicity is positive assurance against trouble. Only two valves, instead of four—

GOULDS SHALLOW WELL WATER SYSTEMS

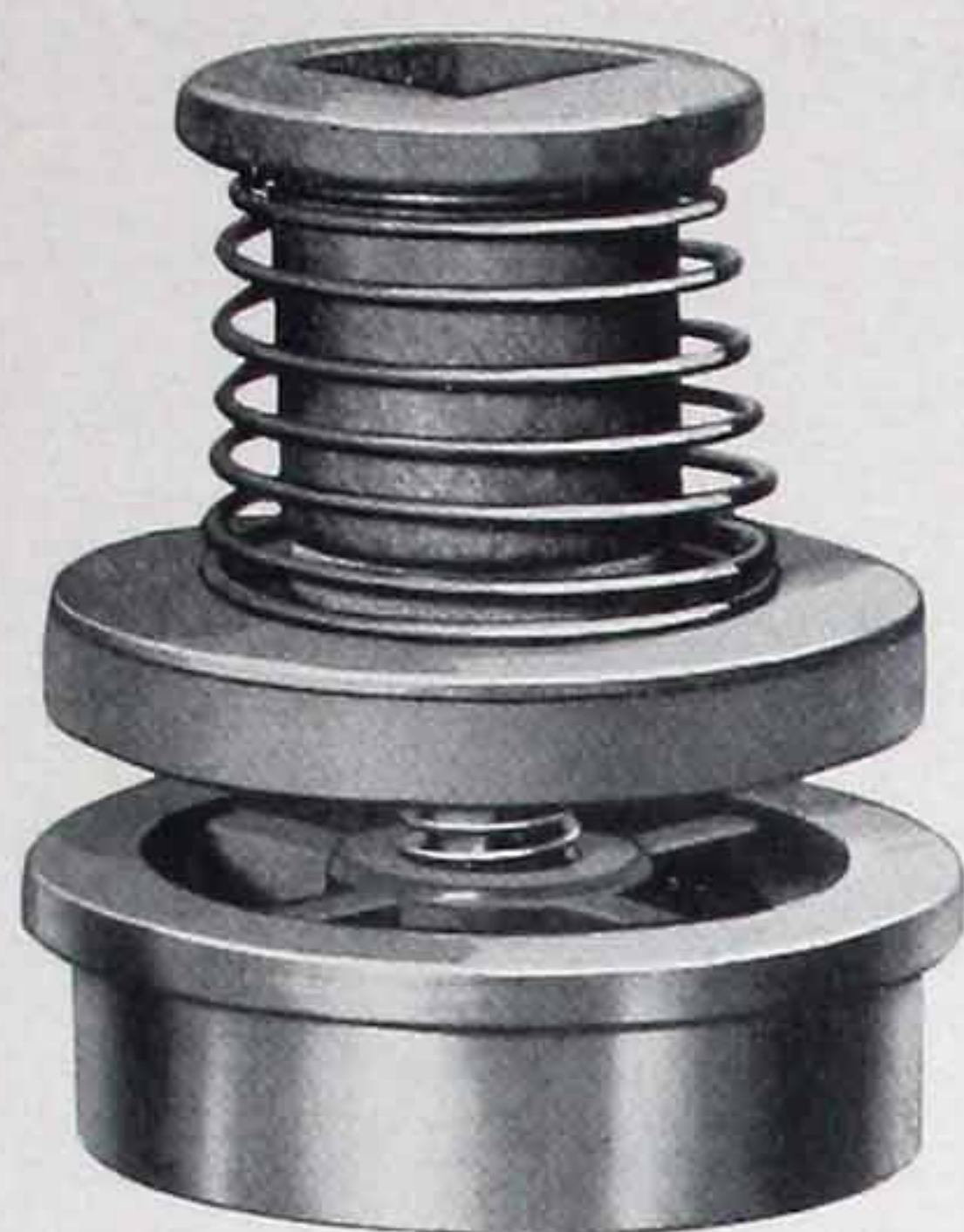


Fig. 6. Valve Assembly
Metal Parts are of Bronze

extra large, rubber disc valves with bronze backing plates, springs, stems and seats, identical in design and quality to those used on the best and largest engineering pumps. Easy to get at—should trouble by any chance develop or repairs become necessary—and no difficulty experienced in renewing the valve discs.

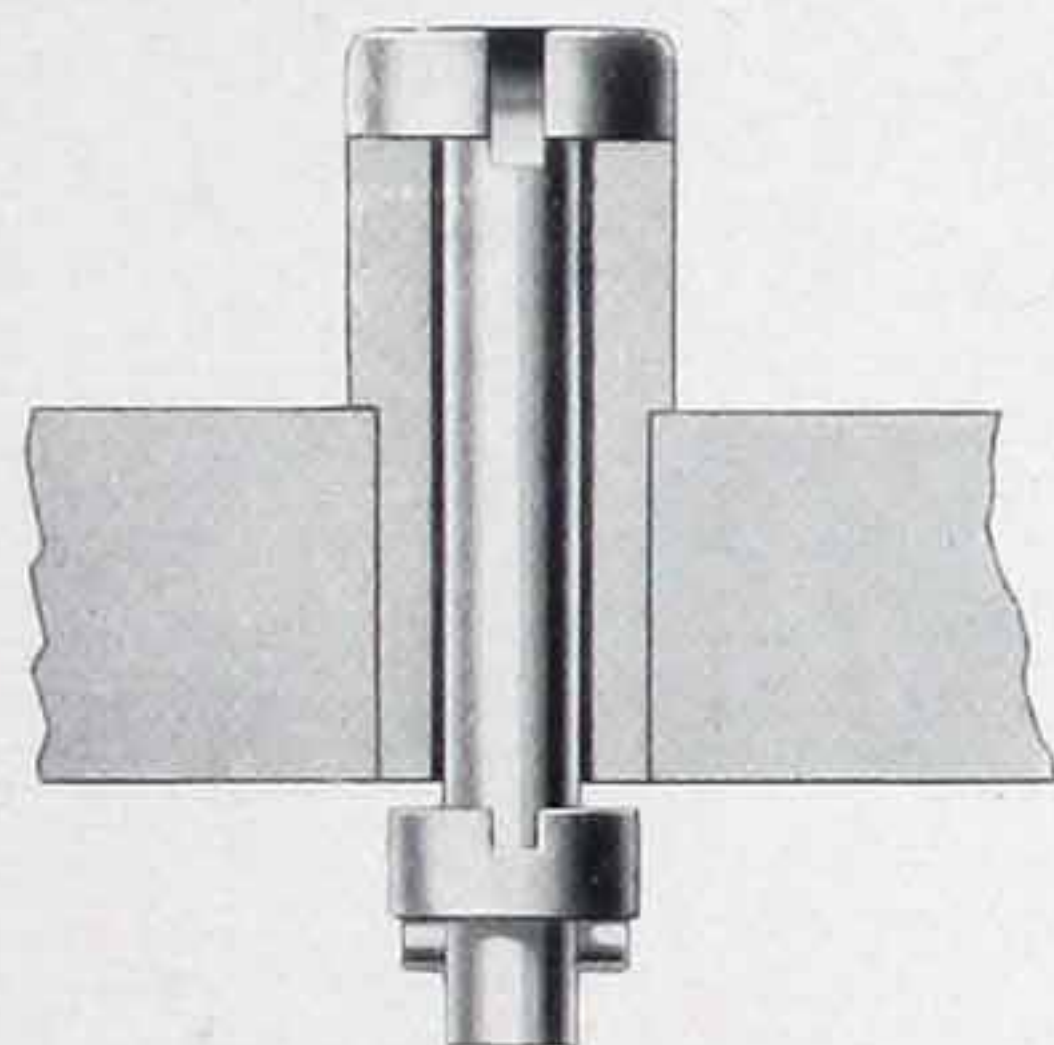


Fig. 7. Sectional View of Bleeder Valve

The Bleeder Valve

This priming or bleeder valve is one of the main reasons why Goulds EVER-OILED Pump is self-priming and can be depended upon to give constantly satisfactory service without losing its prime. It permits water that remains in the discharge chamber to flow back to the cylinder. It is not just a small hole in the valve seat, which can easily plug, as is the case with most water system pumps. It is a self-cleaning, poppet type valve which oscillates in the valve seat with each plunger movement and thus cannot clog. All parts made of stainless non-corrosive alloy. It prevents air binding the pump by keeping the pump cylinder always primed. A more expensive construction but it contributes much to the EVER-OILED success.

Unit Construction

The use of small units bolted together in the Goulds EVER-OILED Pump makes it easy to replace

worn or broken parts at an unusually low price—and without the necessity of buying practically a new pump.

All Working Parts Carefully Fitted

The engine of the finest automobile receives no better attention than the working mechanism of Goulds EVER-OILED Pump. All parts, made of the highest grade metals, are machined to close working fits and so constructed that repairs or replaced parts will always fit the pump. The crankshaft is counter-balanced to eliminate vibration. The entire design and construction of the pump insure a smoothness of operation and a length of life unequalled today by any other water system pump.

Quiet Operation

For quietness, few pumps can compete with the new Goulds EVER-OILED. Ball bearings and the precision of its working mechanism assure this smooth, noiseless performance for the life of the pump.

Tested Three Times Before Shipment

Before it leaves our factory, every Goulds EVER-OILED Pump is rigidly tested under actual working conditions. First, all parts are given a hydrostatic test for leaks, before assembly.

Second, the assembled pump is given a running test to make sure that it handles more than its rated capacity and pressure, and picks up its suction properly. Bearings are checked to assure their meeting our standard of requirements and a general inspection of the pump is made for quiet operation.

Third, the outfit complete is run under test as a final assurance that the complete unit is working satisfactorily and all parts function properly.

Two-year Guarantee

Every Goulds EVER-OILED Pump is guaranteed to be free from defects in material and workmanship. We guarantee to replace any pump, if, within two years from date of delivery to consumer, it has not given satisfactory service or has developed operating trouble.

If you have trouble in deciding what water system to buy just ask other manufacturers for their guarantees.

Goulds EVER-OILED is the *only* pump backed by a *Guarantee of Two Years' Satisfactory Operation*.

PUMP

Lubricated for Life—
Guaranteed for Two Years

CAPACITY

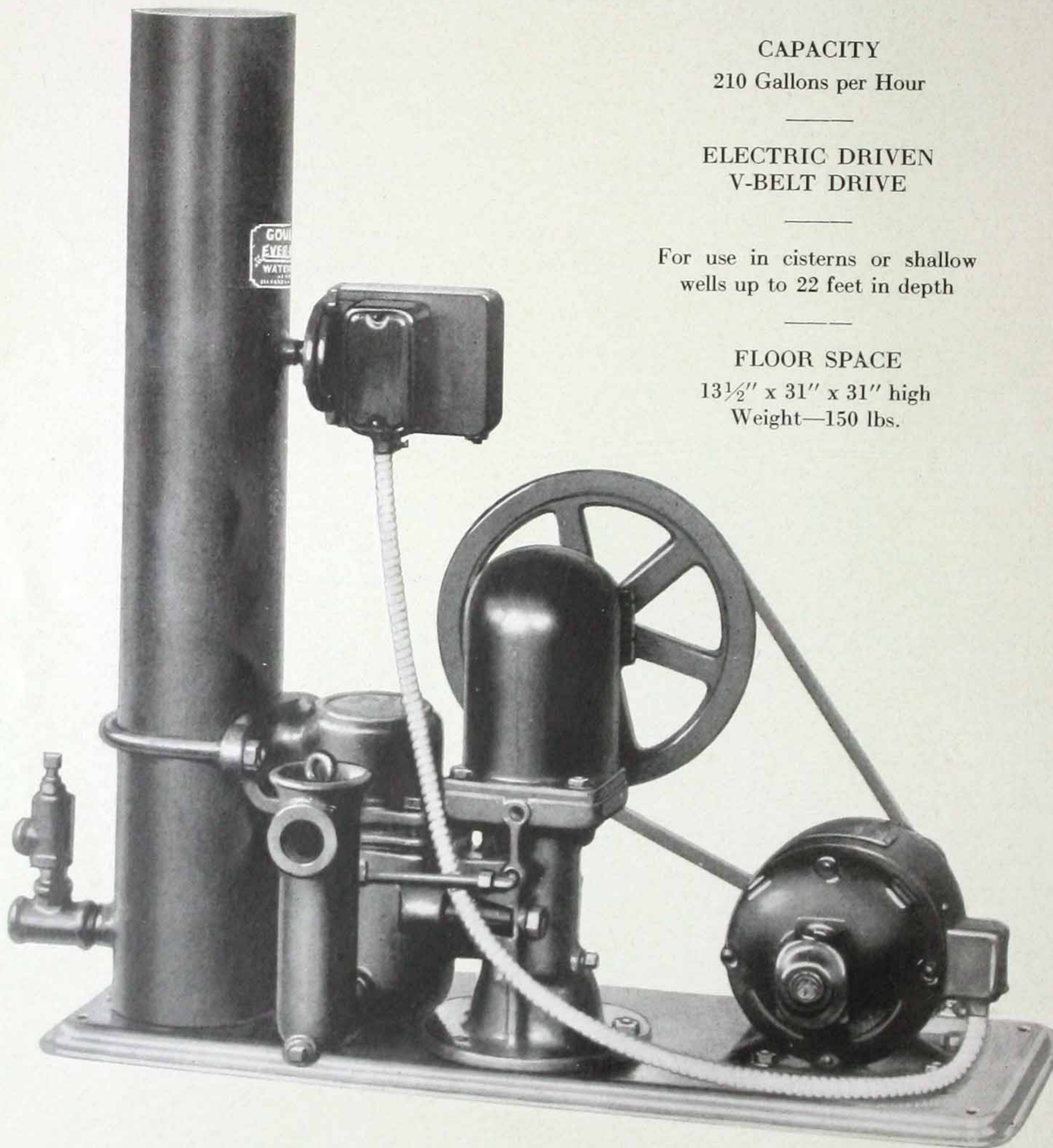
210 Gallons per Hour

ELECTRIC DRIVEN
V-BELT DRIVE

For use in cisterns or shallow
wells up to 22 feet in depth

FLOOR SPACE

13½" x 31" x 31" high
Weight—150 lbs.



EVER-OILED Water System W-40
"Fresh Water Jr."

G O U L D S

EVER-OILED

Water System W-40

"Fresh Water Jr."

Capacity 210 Gallons Per Hour—V-Belt Drive

Compared feature for feature with any other water system, this Goulds EVER-OILED Outfit W-40 proves itself to be the greatest water system value on the market today. It is a complete unit, ready to install—necessary only to connect pressure switch and water piping. It is self-starting and self-stopping.

It can be used for cistern water, cottages, rural or suburban homes, camps, filling stations, and any other location where a direct water supply is desired without storage. Pressure switch is already mounted on air cushioning chamber close to motor. The air chamber is large enough to insure proper cushioning of air for direct pumping of water supply, relieve pump of shocks, and give smoother, more even flow of water. The long, narrow shape exposes as little surface to the air as possible and thus cuts down the absorption surface.

The Goulds EVER-OILED ball bearing pump, lubri-

cated for life, requires no lubricating attention whatever. The non-leaking gland eliminates the possibility of leakage around the pump or floor. The plunger packing is kept constantly tight by the spring tension gland. Instead of using the smallest motor possible, as is the practice of most water system manufacturers, this system is full powered with a $\frac{1}{4}$ horse power motor to permit continuous satisfactory operation, such as for sprinkling, without danger to the motor. All of these improvements meet the modern demand for automatic, attention-free equipment and enable the system to operate month after month without care or worry. The superior construction and operation of the pump is so satisfactory that we are able to back it with a *two-year guarantee*.

This outfit complete can be installed in any convenient place where it will be protected from freezing. Floor space $13\frac{1}{2}$ x 31 x 31 inches high.

Equipment

Pump: Goulds EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years. Capacity 210 gallons per hour. Suction lift 22 feet. Built-in vacuum chamber.

Tank or Cushioning Chamber: Electrically welded steel. Acts as large cushioning chamber to give quiet, smooth operation. When faucet is opened tank discharges less than $\frac{1}{3}$ gallon before pump starts and fresh water flows from the faucet. Mounted on pressed steel base which carries pump and motor.

Motor: $\frac{1}{4}$ horsepower repulsion-induction alternating current motor, or direct current as specified, General Electric.

Switch: Double-pole pressure switch, set to start at 23 lbs. and stop at 43 lbs. Motor and switch connected at factory.

Belt: Endless, non-slipping V-belt. Rubber and fabric. May be adjusted as needed by moving motor in slots provided.

Relief Valve: To protect motor and pump from injury.

Operation

The W-40 Water System is mainly for installation where it is desired to pump fresh, cool drinking water direct from the well to the faucet without using a storage tank. Where storage supply only is desired, we recommend Outfit W-205. For both fresh water and storage supply, Outfit W-48 will give the most satisfactory service. (See description on pages 14 and 15.) Outfit W-40 "Fresh Water, Jr." is completely automatic in operation. When the faucet

is opened the pump starts. It stops when the faucet is closed. The air supply in the air cushioning chamber is replenished by opening the air supply valve. Maintains pressure between 23 and 43 pounds, where most similar outfits operate at lower pressures.

Lubricated for life when it leaves the factory—no other lubricating attention is required.

Complete System

Capacity 210 Gallons per hour

Outfit W-40 (as illustrated) Complete with EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years; air cushioning chamber; vacuum chamber; air valve; electric pressure switch; relief valve; endless V-belt, and $\frac{1}{4}$ horsepower motor. Suction and discharge $\frac{3}{4}$ inch. Supplied only as com-

plete unit, as illustrated. Motor and pressure switch connected for 60 cycle, 110 volts only, ready for installation.

Specify current used. If A. C. give phase, cycles and voltage. If D.C. give voltage.

Price—See Price Sheet.

Extra Equipment

Goulds Fig. 760, 1-inch Foot Valve and Strainer is recommended. (See page 52)

CAPACITY
210 gallons per Hour

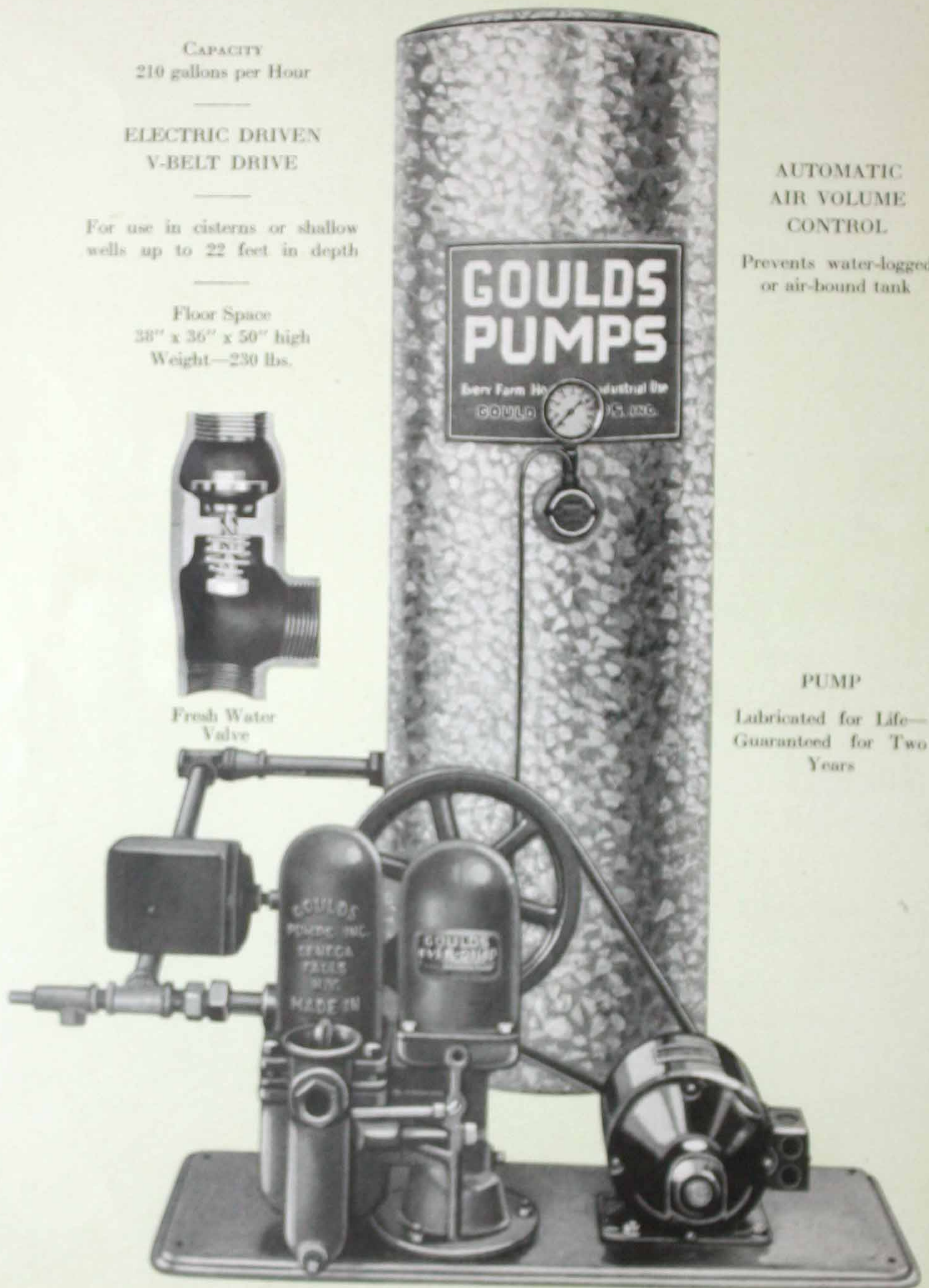
ELECTRIC DRIVEN
V-BELT DRIVE

For use in cisterns or shallow
wells up to 22 feet in depth

Floor Space
38" x 36" x 50" high
Weight—230 lbs.



Fresh Water
Valve



AUTOMATIC
AIR VOLUME
CONTROL

Prevents water-logged
or air-bound tank

PUMP

Lubricated for Life—
Guaranteed for Two
Years

EVER-OILED Combination System W-48

G O U L D S

EVER-OILED

Water System W-48

Combination Fresh Water and Pressure Tank System

Capacity 210 Gallons Per Hour—V-Belt Drive

This is the most satisfactory combination water system on the market today, furnishing both fresh water and a storage supply from one pumping unit. Fresh cold water, direct from the well for drinking, and a storage supply adequate for all household requirements of hot and cold water are available.

This system uses our W-200 pumping outfit with a tank and a fresh water spring check valve to make a combination unit for fresh and storage water which cannot be equalled anywhere else on the market. A main feature is the pressure switch mounted on the air chamber to give the cushioning effect so desirable for long, trouble-free life. Most systems have the pressure switch mounted directly on the piping and attempt to overcome pump pulsations by using a "pulsation plug" in the diaphragm opening. But this plug often becomes clogged, with

consequent damage to pump and motor. Goulds W-48 design overcomes these objections and offers a smoothly operating, long-lived combination system.

Lubricated for life at the factory, the EVER-OILED pump never requires lubricating attention.

A $\frac{1}{4}$ horsepower motor assures satisfactory operation without over-loading and consequent danger to the motor, even on heavily loaded power lines where low voltage is liable to occur. It also permits the continuous operation, needed for sprinkling.

Smooth, noiseless, leak-proof, attention-free operation—and a pump backed with a two-year guarantee of satisfactory service. Here is a water system you can install and depend upon.

Floor space 38 x 36 x 50 inches high.

Equipment

Pump: Goulds EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years. Capacity 210 gallons per hour. Suction lift 22 feet. Mounted on pressed steel base with motor and air cushioning chamber. V-Belt Drive.

Tank: 42-gallon, welded steel, galvanized inside and out, with galvanized pipe and fittings to connect pump and tank.

Air Volume Control: Completely automatic. Maintains the proper amount of air in tank, and prevents air-bound or water-logged condition. Supplied with fittings complete.

Motor: $\frac{1}{4}$ horsepower repulsion-induction, alternating current or direct current as specified, General Electric.

Switch: Double-pole-pressure switch. Set to start at 23 lbs. and stop at 43 lbs. Motor and switch connected at factory.

Belt: Endless non-slipping V-belt. Rubber and fabric. May be tightened by motor adjustment.

Fresh Water Valve: Spring check valve, Marks type, for installation in the piping between pump and tank.

Operation

Goulds EVER-OILED Water System W-48 is designed to furnish fresh cold water direct from well, and hot or cold water from storage. Where fresh cold drinking water, as well as hot and cold storage water are required at any point such as in Kitchen and Bath-Room, three faucets are required, the extra faucet being connected direct to the fresh water supply. When the fresh water faucet is

opened, the pump starts at once and supplies cold water direct from the well. The other faucets are supplied from the storage tank.

Entirely automatic in its control and operation, self-starting and self-stopping. Designed for use where there is central station current or a farm light and power plant, this outfit affords all the advantages of a city water supply.

Complete System

Capacity 210 Gallons per Hour

Outfit W-48: Complete with EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years; air cushioning chamber; vacuum chamber; a 42-gallon storage tank (See "Extra Equipment" below); Automatic Air Volume Control; galvanized pipe and fittings for connecting pump and tank; electric pressure switch; pressure gauge; air valve; relief valve;

fresh water valve; endless V-belt; $\frac{1}{4}$ horsepower A.C. or D.C. motor. Suction and discharge $\frac{3}{4}$ inch. Supplied as complete system only as illustrated. Specify current used. If A.C. give phase, cycles and voltage. If D.C. give voltage. Price—See Price Sheet.

Extra Equipment

Goulds Fig. 760, 1-inch Foot Valve and Strainer is recommended. (See page 52). Storage tank is supplied only as

listed. If a larger tank is wanted order W-200 Outfit, with size tank desired and necessary fittings.



Pressure Switch
Furnished with W-200



RELIEF VALVE
Furnished with W-200
and W-207

PUMP

Lubricated for Life—
Guaranteed for Two
Years



EVER-OILED Outfits W-200 and W-207

CAPACITY
210 Gallons per Hour

ELECTRIC
DRIVEN
V-BELT DRIVE

For use in cisterns or
shallow wells up to
22 feet in depth

FLOOR SPACE
13½" x 29" x 17⅞"
high

Weight
W-200—130 lbs.
W-207—125 lbs.

G O U L D S

EVER-OILED

Pressure Tank Outfit W-200

Open Tank Outfit W-207

Capacity 210 Gallons Per Hour—V-Belt Drive

In buying a pumping unit only, whether for pressure tank, open tank, or general pumping service, no better value or more serviceable unit can be obtained than that represented in Goulds Outfits W-200 and W-207.

These are basic pumping units from which any desired water system may be built. Or they may be used in a wide range of industrial and other applications, as listed on page 29, where a reliable, trouble-free pump is demanded.

Each of these outfits is equipped with the new Goulds EVER-OILED Ball Bearing Pump guaranteed for two years. No other water supply outfit on the market offers such a liberal pump guarantee.

No other outfit has the exclusive features which

are an outstanding part of the EVER-OILED pump—a pump that never has to be lubricated, that is made positively leak-proof with its soft flax plunger packing, special bronze water seal ring and spring tension gland which keeps the packing tight at all times. The pump crankshaft and connecting rod assembly has three large ball bearings to assure smooth, noiseless operation and extra long wear—unit construction and accessibility of all working parts which make it easy and inexpensive to repair or replace parts.

Outfits W-200 and W-207 do not include a storage tank or tank fittings. Where a complete pressure system is wanted, see Outfits W-48, page 15 and W-205, page 19.

Equipment

W-200—For Pressure Tank Service

Pump: Goulds EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years. Capacity 210 gallons per hour. Large air chamber and built-in vacuum chamber. Suction lift 22 feet. Suction and discharge $\frac{3}{4}$ inch. Includes relief valve and air valve. Pump and motor mounted on pressed steel base. V-belt drive.

Motor: $\frac{1}{4}$ horsepower repulsion-induction, alternating current or direct current as specified, General Electric.

Switch: Double-pole pressure switch. Set to start at 23 lbs. and stop at 43 lbs.

Belt: Endless, non-slipping V-belt. Rubber and fabric. May be tightened by simple motor adjustment.

W-207—For General or Open Tank Service

Same equipment as W-200 except that Pressure Switch is not included.

Operation

Outfits W-200 and W-207 are motor driven, operated from central station electric current or a home light and power plant.

Outfit W-200 is designed for use with a pressure storage tank. It is self-starting and self-stopping, controlled by a pressure switch which operates under a pressure of from 23 to 43 pounds. This outfit can be connected to an ordinary range boiler to furnish

a small storage supply or to a larger tank, depending on the amount of storage water needed.

Outfit W-207, in addition to its use with an open tank for water supply, serves many other industrial, municipal and general pumping needs. This outfit is not furnished with a pressure switch. When complete automatic control is desired for open tank service, a Goulds Float Switch is generally used.

Complete Outfits

Capacity 210 Gallons per Hour

Outfit W-200: Complete with EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years; electric pressure switch; relief valve; air valve; endless V-belt, $\frac{1}{4}$ horsepower A.C. or D.C. motor. Suction and discharge $\frac{3}{4}$

inch. Specify current used. If A.C. give phase, cycles and voltage. If D.C. give voltage.

Outfit W-207: Same as Outfit W-200 but supplied without the pressure switch. For Prices—See Price Sheet.

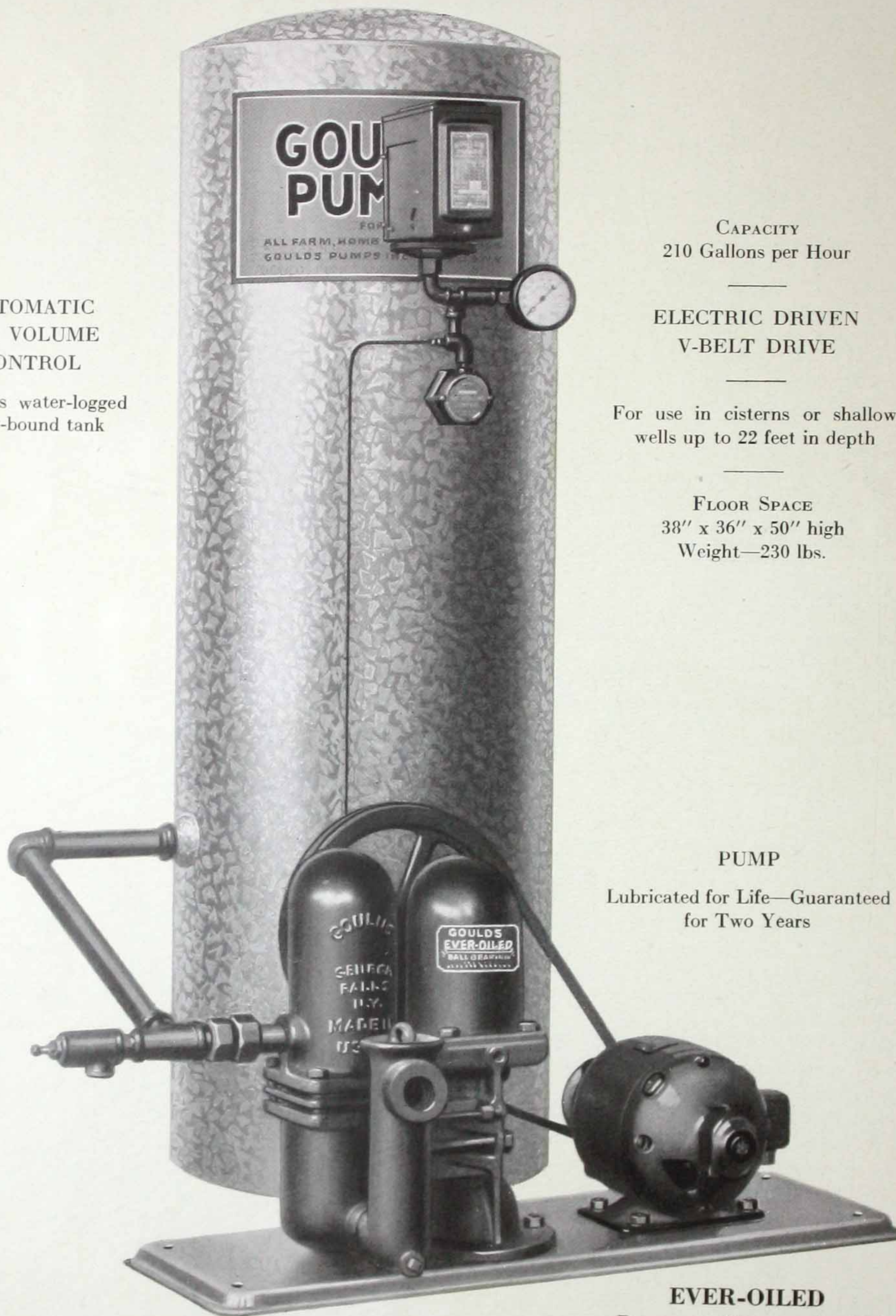
Extra Equipment

Automatic Air Volume Control, with tubing and fittings. Float Switch including float, rod and stops. Pressure Gauge.

Water Gauge. Fig. 760 1-inch galvanized Foot Valve and Strainer. Pressure Switch. For Prices—See Price Sheet.

**AUTOMATIC
AIR VOLUME
CONTROL**

Prevents water-logged
or air-bound tank



CAPACITY
210 Gallons per Hour

**ELECTRIC DRIVEN
V-BELT DRIVE**

For use in cisterns or shallow
wells up to 22 feet in depth

FLOOR SPACE
38" x 36" x 50" high
Weight—230 lbs.

PUMP

Lubricated for Life—Guaranteed
for Two Years

EVER-OILED
Pressure System W-205

G O U L D S

EVER-OILED

Complete Pressure System W-205

Capacity 210 Gallons Per Hour—V-Belt Drive

Running water is no longer a luxury. Today, any convenient source of water supply can be brought into kitchen, bathroom, lavatory, cellar or barn, with the aid of a good pumping unit.

Such a pumping unit is found in EVER-OILED Pressure System W-205—a complete outfit for storage water supply, furnishing practically city water service to the farm, suburban home, wayside filling station, refreshment stand and similar places where the quantity of water used does not exceed 210 gallons per hour.

The W-205 pumping unit is the same as our W-200—made to assure perfect performance by the preci-

sion of its working parts—plunger packing kept tight by a spring tension take-up gland to make a leakless pump; two large bronze valves with rubber discs; a self-cleaning, poppet type priming valve, a ball bearing crankshaft assembly sealed in grease and which never requires lubricating attention; and many other vital features as shown on pages 8 to 11, which enable us to guarantee this pump for two years.

EVER-OILED Outfit W-205 is a complete pressure system, ready to install and use merely by connecting suction and discharge pipes and wiring the pressure switch to the lighting circuit.

Floor space 38 x 36 x 50 inches high.

Equipment

Pump: Goulds EVER-OILED Ball Bearing Pump, *lubricated for life, guaranteed for two years.* Capacity 210 gallons per hour. Large air chamber and built-in vacuum chamber. Suction lift 22 feet. Includes relief valve and air valve. Pump and motor mounted on pressed steel base. V-belt drive.

Motor: $\frac{1}{4}$ horsepower, repulsion-induction, alternating current or direct current as specified, General Electric.

Tank: 42-gallon, welded steel, galvanized inside and out.

Galvanized pipe and fittings to connect pump discharge with tank.

Air Volume Control: Completely automatic. Keeps just the right amount of air in tank to prevent air-binding or water-logging. Requires no attention.

Switch: Double-pole pressure switch. Set to start at 23 lbs. and stop at 43 lbs.

Belt: Endless, non-slipping V-belt. Rubber and fabric. Simple motor adjustment for tightening.

Operation

EVER-OILED System W-205 is entirely automatic. Simply turn the faucet and pressure in the tank causes water to flow freely. When pressure in the tank drops to 23 lbs., the electric pressure switch automatically starts the pump. When pressure in the tank reaches 43 lbs., the pump stops. Pressure in the tank is always kept between these two points. The Automatic Air Volume Control maintains the

proper amount of air in the tank to prevent an air-bound or water-logged condition. Ball bearings and the precision of all working parts assure practically noiseless operation.

Here is an outfit complete in every detail, ready for use, that can be installed and forgotten, with positive assurance that it will furnish steady, uninterrupted service for years.

Complete System

Capacity 210 Gallons per Hour

Outfit W-205: Complete with EVER-OILED Ball Bearing Pump, *lubricated for life, guaranteed for two years;* 42-gallon storage tank (See "Extra Equipment" below); galvanized pipe and fittings for connecting pump and tank; Automatic Air Volume Control; pressure switch, relief valve and air valve;

pressure gauge, endless V-belt; and $\frac{1}{4}$ horsepower A.C. or D.C. motor. Suction and discharge, $\frac{3}{4}$ inch. Specify current used. If A.C. give phase, cycles and voltage. If D.C. give voltage. Price—See Price Sheet.

Extra Equipment

Goulds Fig. 760, 1-inch Foot Valve and Strainer is recommended. (See page 52.) Storage tank is supplied only as

listed. If a larger tank is wanted, order Outfit W-200 with size tank desired and necessary fittings.



PRESSURE SWITCH
Furnished with W-400



RELIEF VALVE
Furnished with W-400
and W-407



CAPACITY
420 Gallons per Hour

ELECTRIC DRIVEN
V-BELT DRIVE

For use in cisterns or shallow
wells up to 22 feet in depth

FLOOR SPACE
14½" x 29" x 24" high
Weight—W-400—165 lbs.
W-407—160 lbs.

PUMP
Lubricated for Life—
Guaranteed for
Two Years

EVER-OILED Outfits W-400 and W-407

G O U L D S

EVER-OILED

Pressure Tank Outfit W-400

Open Tank Outfit W-407

Capacity 420 Gallons Per Hour—V-Belt Drive

While an outfit with a capacity of 210 gallons per hour may serve the small home satisfactorily, where adequate fire protection is desired, a liberal amount of sprinkling is to be done, and livestock has to be watered, a larger capacity outfit such as this is necessary.

EVER-OILED Outfits W-400 and W-407 are similar to our W-200 and W-207 outfits but built to handle a capacity of 420 gallons per hour. It is, without doubt, the lowest priced 420-gallon unit on the market—and the best. An examination of its pumping unit will prove beyond a doubt the many superior points of this outfit, which enable us to back it and our other EVER-OILED pumps with a two-year guarantee of satisfactory service.

Every part is fully enclosed—protected from dust and other elements which might injure the pump.

Power is supplied by a $\frac{1}{3}$ horsepower motor—ample size for long, continuous service without danger of overloading.

These outfits are capable of furnishing a dependable running water supply for medium and large suburban or farm homes, country clubs for house water supply, small rural schools, roadside lunch stands, service and gasoline stations, small dairies equipped with drinking bowls for cattle and small greenhouses for a limited amount of sprinkling. These units can also be used for many pumping services other than water supply; in industrial plants, oil refineries, private and public buildings for water circulation, handling distillates and similar purposes.

For pressure tank service, specify Outfit W-400; for general or open tank service, Outfit W-407.

Equipment

Outfit W-400—For Pressure Tanks

Pump: Goulds EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years. Capacity 420 gallons per hour. Suction lift 22 feet. Large air chamber and built-in vacuum chamber. Includes relief valve and air valve. Mounted with motor on pressed steel base. V-belt drive.

Motor: $\frac{1}{3}$ horsepower repulsion-induction, alternating cur-

rent or direct current as specified, General Electric.

Switch: Double-pole pressure switch. Set to start at 23 lbs. and stop at 43 lbs.

Belt: Endless, non-slipping V-belt. Rubber and fabric. Simple motor adjustment for tightening.

Outfit W-407—For General or Open Tank Service

Same equipment as W-400 except that Pressure Switch is not included.

Operation

Outfits W-400 and W-407 are designed for operation by electric current from central station or farm light and power plant. The pump operates successfully under a pressure of from 23 lbs. to 43 lbs. A pressure control switch is furnished with Outfit W-400. This outfit can be piped to a small or large

tank depending on the storage capacities desired.

As Outfit W-407 is for open tank or general service, it requires no pressure switch. However, it is generally used with a Goulds Float Switch (illustrated and described on Page 51) to give complete automatic control.

Complete Outfits

Capacity 420 Gallons per Hour

Outfit W-400: Complete with EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years; electric pressure switch, relief valve, air valve; endless V-belt; $\frac{1}{3}$ horsepower A.C. or D.C. motor. Suction and discharge 1 inch.

Specify current used. If A.C. give phase, cycles and voltage. If D.C. give voltage.

Outfit W-407: Same as Outfit W-400 but supplied without pressure switch. Prices—See Price Sheet.

Extra Equipment

Automatic Air Volume Control, with tubing and fittings. Pressure Gauge. Water Gauge. Ball Check Air Valve. Fig.

760, 1-inch galvanized Foot Valve and Strainer. Float Switch, including float, rod and stops. For prices—See Price Sheet.

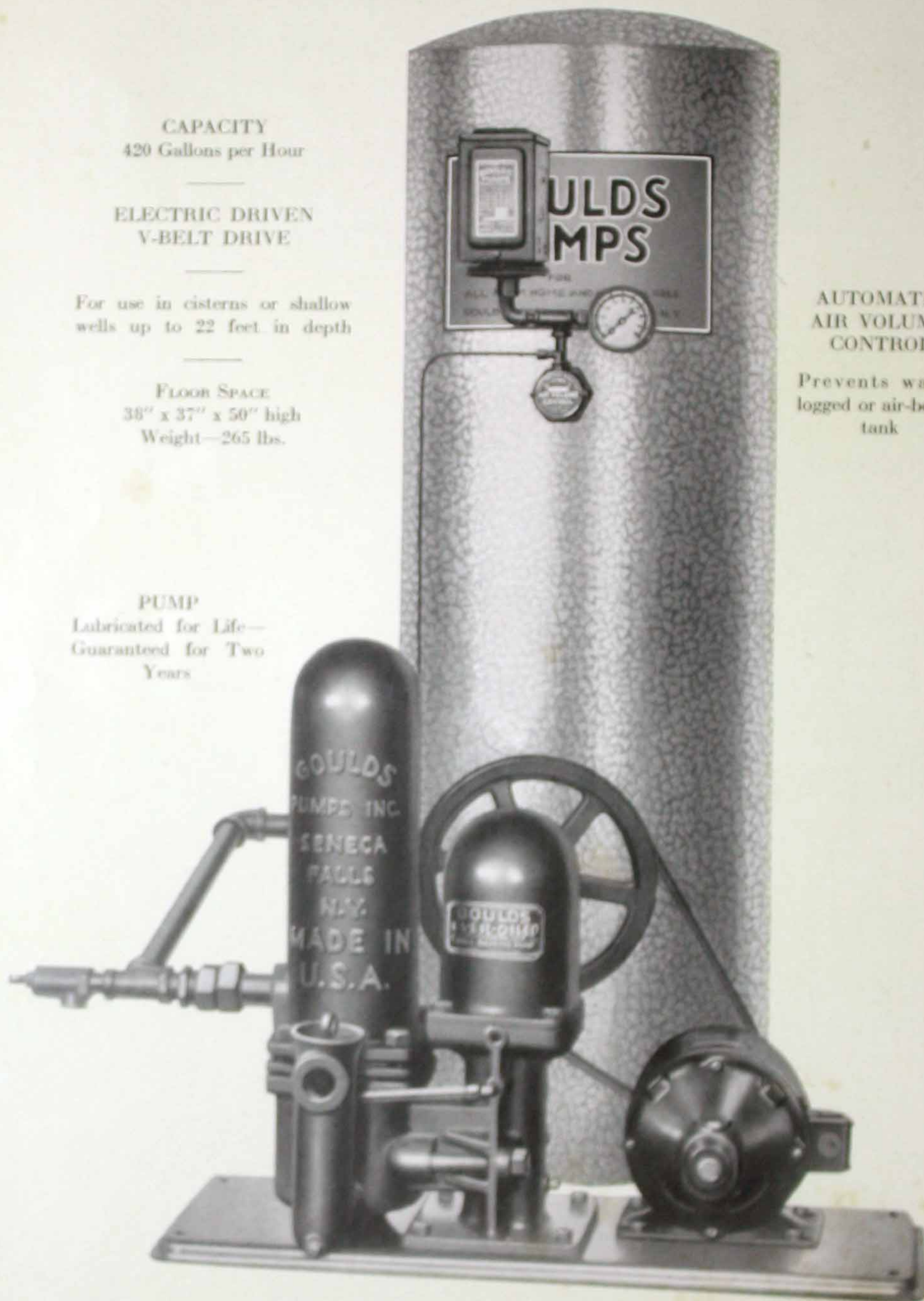
CAPACITY
420 Gallons per Hour

ELECTRIC DRIVEN
V-BELT DRIVE

For use in cisterns or shallow
wells up to 22 feet in depth

FLOOR SPACE
38" x 37" x 50" high
Weight—265 lbs.

PUMP
Lubricated for Life—
Guaranteed for Two
Years



AUTOMATIC
AIR VOLUME
CONTROL

Prevents water-
logged or air-bound
tank

EVER-OILED Pressure System W-405

G O U L D S

EVER-OILED

Complete Pressure System W-405

Capacity 420 Gallons Per Hour—V-Belt Drive

In homes, on farms, country estates, country clubs, summer cottages, rural schools and other places where the water requirements average more than 210 gallons per hour, Outfit W-405 offers real economic service. In fact, nowhere else can such value be found in a system of 420 gallons capacity. In the long run, this outfit will prove more economical than a smaller capacity outfit even if the proposed installation seems to indicate a quantity of water used amounting to about 210 gallons per hour.

Outfit W-405 is a complete unit, including storage tank with automatic air volume control, ready to install and use by connecting outfit to water supply and electric current.

Without hesitation we recommend the pumping unit—the new Goulds EVER-OILED Ball Bearing

Pump—as the finest and most reliable in mechanical performance ever used on a water system. And we back this claim with a two-year guarantee of satisfactory service.

The ball bearing crankshaft and connecting rod, lubricated for life, the non-leaking spring tension gland, and the two large valves instead of the usual four small ones found in most pumps, assure a pump that is smooth, quiet, leakless and trouble-free in its operation. Other features which make this the finest of water system pumps are described on pages 8 to 11.

Goulds EVER-OILED Pressure System W-405 can be installed in basement or other convenient place where it will be protected from freezing. Floor space 38 x 37 x 50 inches.

Equipment

Pump: Goulds EVER-OILED Ball Bearing Pump, *lubricated for life, guaranteed for two years.* Capacity 420 gallons per hour. Large air chamber and built-in vacuum chamber. Suction lift 22 feet. Includes relief valve and air valve. Pump and motor mounted on pressed steel base.

Motor: $\frac{1}{3}$ horsepower repulsion-induction, alternating current or direct current as specified, General Electric.

Tank: 42-gallon, welded steel, galvanized inside and out.

Galvanized pipe and fittings to connect pump discharge with tank.

Air Volume Control: Completely automatic. Keeps just the right amount of air in tank to prevent tank from becoming air-bound or water-logged. Requires no attention.

Switch: Double-pole pressure switch. Set to start at 23 lbs. and stop at 43 lbs.

Belt: Endless non-slipping V-belt. Rubber and fabric. Simple motor adjustment for tightening.

Operation

EVER-OILED Outfit W-405 is designed for installation where a hot and cold storage water supply is desired. It is completely automatic in its operation. It is self-starting and self-stopping—equal to city water service in its freedom from attention. When pressure in the storage tank drops to 23 lbs. the pump starts; when pressure reaches 43 lbs. the pump stops. The Automatic Air Volume Control keeps the

proper amount of air in the tank to prevent an air-bound or water-logged condition.

When the quantity of water required becomes greater than the pump's capacity, another pumping unit can be connected to the W-405 outfit, as explained on page 32. This doubles the water supply without going to the trouble and expense of installing an entirely new system.

Complete System

Capacity 420 Gallons per Hour

Outfit W-405: Complete with EVER-OILED Ball Bearing Pump; *lubricated for life, guaranteed for two years;* 42-gallon storage tank (see "Extra Equipment" below); galvanized pipe and fittings for connecting pump and tank; Automatic Air Volume Control; pressure switch; relief valve; air valve;

pressure gauge; endless V-belt; and $\frac{1}{3}$ horsepower A.C. or D.C. motor. Suction and discharge 1 inch.

Specify current used. If A.C. give phase, cycles and voltage. If D.C. give voltage.

Price—See Price Sheet.

Extra Equipment

Goulds Fig. 760, 1-inch Foot Valve and Strainer is recommended. (See page 52.) Storage tank is supplied only as

listed. If a larger tank is wanted order Outfit W-400, with size tank desired and necessary fittings.



RELIEF VALVE
Furnished with each outfit

CAPACITY
R-201—210 Gallons per Hour
R-401—420 Gallons per Hour

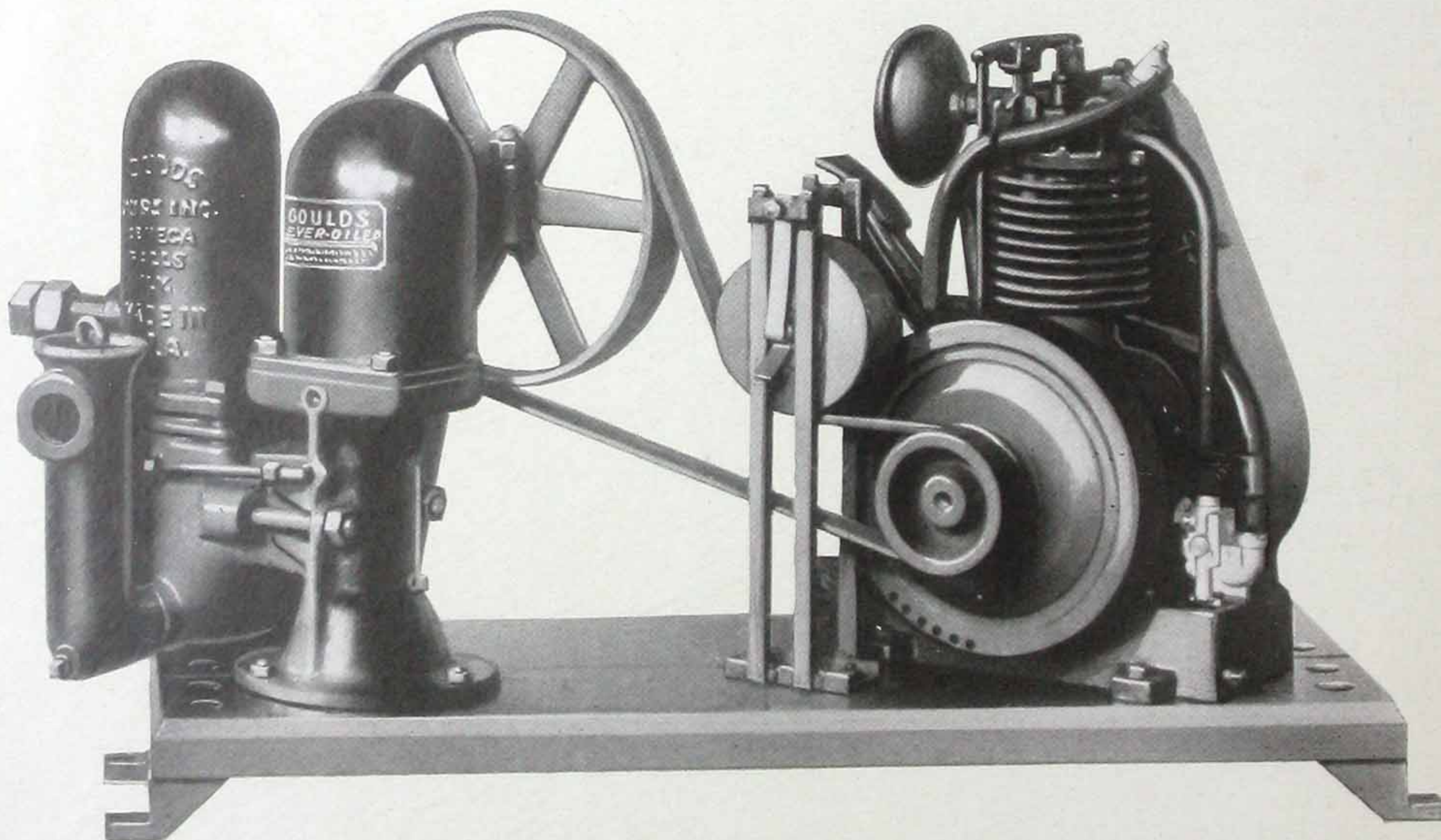
**ENGINE DRIVEN
FLAT BELT DRIVE**

For use in cisterns or shallow wells
up to 22 feet in depth

FLOOR SPACE
R-201—15" x 32½" x 19½" high
R-401—15" x 32½" x 26" high

WEIGHT
R-201—175 lbs.
R-401—200 lbs.

PUMP
Lubricated for Life—Guaranteed
for Two Years



EVER-OILED Outfits R-201 and R-401

G O U L D S

EVER-OILED

Engine Driven Outfits R-201 and R-401

Flat Belt Drive

Capacities 210 and 420 Gallons Per Hour

Always an outstanding feature of the Goulds line of water systems is the wide range of units from which to choose. There is a Goulds outfit to meet practically every water supply requirement.

In the EVER-OILED Outfits R-201 and R-401, we offer engine driven pumping units capable of furnishing a dependable running water supply for farms and country homes in outlying districts, cottages, camps, hunting lodges and other places not supplied with electric current.

Either of these units can be connected with a large capacity tank—preferably one with 315 gallons or more capacity, according to the amount of water required.

With the accessories listed, the owner is enabled to make any type of installation desired.

The EVER-OILED Pump with which these outfits are supplied, is unquestionably the finest pump ever designed for water supply service.

The three ball bearings on crankshaft and upper connecting rod are packed in grease at the factory and never again require attention. They are lubricated for life.

Leakage around the pump and the floor is prevented by the plunger packing which is kept tamped tightly in the plunger bore by the spring tension gland. The bronze water seal ring collects what water goes by the lower packing rings and carries it off to the vacuum chamber. This allows only the necessary lubrication and no leakage to spill out. All working parts are enclosed and fully protected. Wearing parts are of bronze to give long life.

Details of the superior construction of this pump described on pages 8 to 11, show conclusively why we are able to back its performance with a two-year guarantee of satisfactory service.

Equipment

Goulds EVER-OILED Outfit R-201

Pump: Goulds EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years. Capacity 210 gallons per hour. Large air chamber and built-in vacuum chamber. Suction lift 22 feet. Includes relief valve and air valve. Mounted with engine on heavy oak base.

Engine: $\frac{1}{2}$ horsepower, 4 cycle air-cooled, vertical type

gasoline engine, equipped with easy foot starter. High tension magneto built into one flywheel, cooling fan into the other. Base of engine contains gasoline tank. A very dependable unit.

Belt: Endless, flat leather belt with floating pulley and hold-up hook to remove load from engine when starting. After engine is running, release idler hook to start pump.

Goulds EVER-OILED Outfit R-401

Same as Outfit R-201, but built to handle a capacity of 420 gallons per hour.

Operation

This outfit is semi-automatic in operation. The engine must be started each time by means of the foot starter, but can be made to stop automatically by using the cut-off switch or float switch listed under "Extra Equipment" below. The cut-off switch is for use

with pressure tanks and the float switch for open tanks.

Air is supplied to pressure tank by opening the air valve which is installed on every pump.

Engine, fully guarded, insures complete safety and is easy to start. Anyone can operate the foot starter.

Complete Outfits

Outfit R-201: Capacity 210 gallons per hour. Complete as illustrated with EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years; $\frac{1}{2}$ horsepower, air-cooled 4 cycle engine with foot starter; endless flat belt and belt

tightener; relief valve, air valve. Mounted on heavy oak base. Price—See Price Sheet.

Outfit R-401: Capacity 420 gallons per hour. Same as Outfit R-201 but with a larger pump. Price—See Price Sheet.

Extra Equipment

Gasoline engine cut-off Switch. Float Switch with float, rod and stops. Pressure Gauge. Water Gauge. Fig. 760, 1-inch

galvanized Foot Valve and Strainer. (See Accessories, pages 51 and 52.) For prices—See Price Sheet.



RELIEF VALVE
Furnished with each outfit

CAPACITY
R-202—210 Gallons per Hour
R-402—420 Gallons per Hour

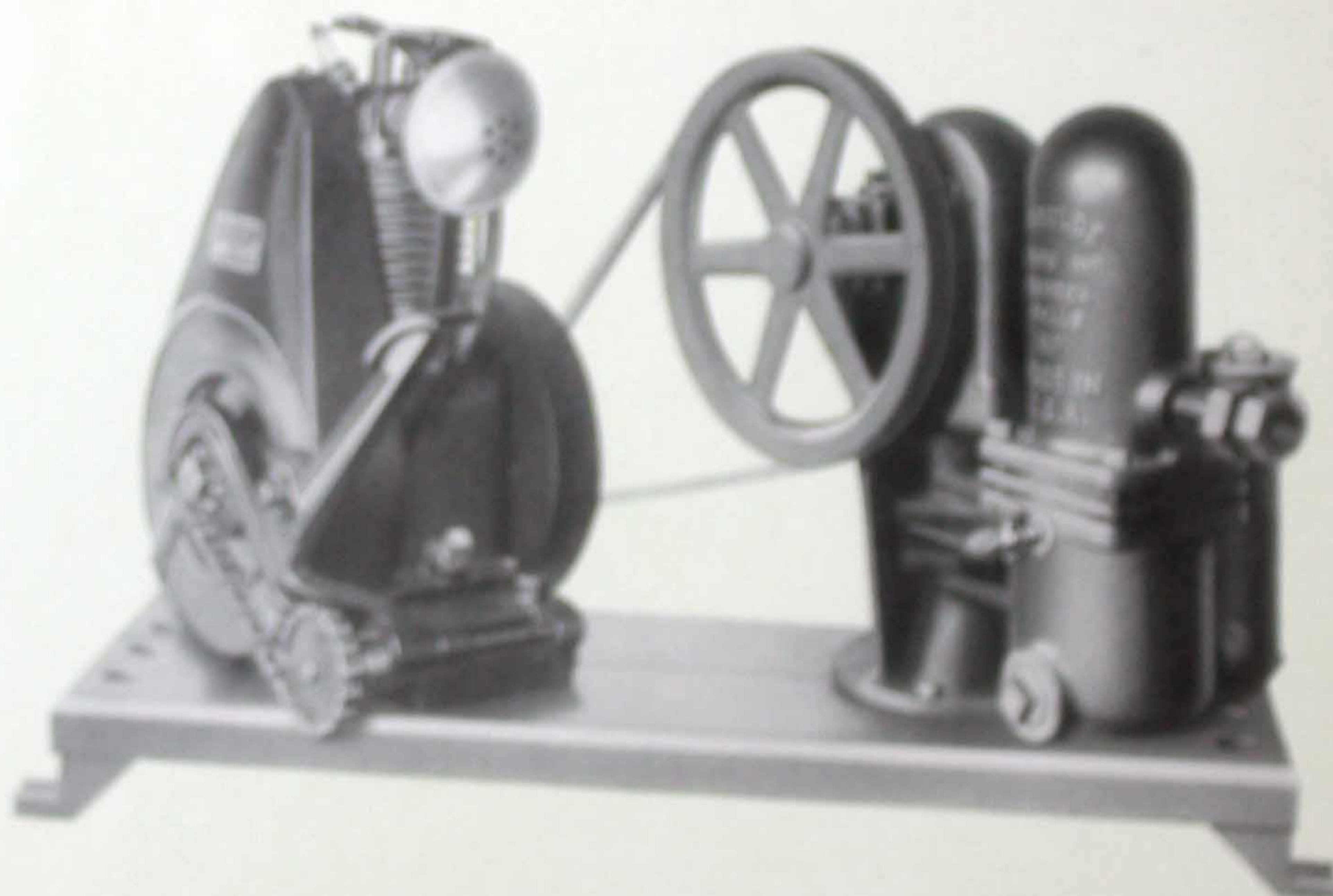
**ENGINE DRIVEN
V-BELT DRIVE**

For use in cisterns or shallow wells up
to 22 feet in depth

FLAME SPACE
R-202— $15\frac{1}{4}$ " x $32\frac{1}{4}$ " x $19\frac{1}{4}$ " high
R-402— $15\frac{1}{4}$ " x 33" x 26" high

WEIGHT
R-202—170 lbs.
R-402—205 lbs.

PUMP
Lubricated for Life—Guaranteed
for Two Years



OVER-OILED Outfits R-202 and R-402

G O U L D S

Engine Driven Outfits R-202 and R-402

V-Belt Drive

Capacities 210 and 420 Gallons Per Hour

The success of our flat belt engine driven outfits and the evidence received of the satisfactory service they have rendered their owners have prompted us to bring out a similar unit equipped with a V-belt drive.

In all other respects these outfits are identical with R-201 and R-401. They are designed to furnish a dependable running water supply where there is no electric current available.

By connecting either unit with a tank of 315 gallons or more capacity and using the accessories listed below, any type of installation can be made.

The improved EVER-OILED Pump, the result of more than 80 years of experience in pump manufacture, comprises many features not to be found in any other water system pump—its sturdy construc-

tion, the small space it occupies, the working mechanism fully enclosed, protected from dirt and other harmful elements. Note, too, the ball bearing crankshaft assembly. Sealed in grease, it is lubricated for life and never again needs lubricating after it leaves our factory.

Six soft flax packing rings, a bronze water seal ring and a spring tension gland to keep the packing tight insure a pump that is leak-proof.

These and other vital features mentioned in detail on pages 8 to 11 are ample reasons why we can back this pump with a two-year guarantee.

Should electric power become available at any time, an electric motor can easily be substituted for the engine.

Equipment

Goulds EVER-OILED Outfit R-202

Pump: Goulds EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years. Capacity 210 gallons per hour. Large air chamber and built-in vacuum chamber. Suction lift 22 feet. Relief valve and air valve. Mounted with engine on heavy oak base.

Engine: $\frac{1}{2}$ horsepower, 4 cycle, air-cooled, vertical type gaso-

line engine, equipped with easy foot starter, V-belt drive. High tension magneto built into one flywheel; cooling fan into the other. Base of engine contains gasoline tank. All working parts fully guarded for perfect safety.

Belt: Endless, non-slipping, V-belt. Rubber and fabric.

Goulds EVER-OILED Outfit R-402

Same as Outfit R-202, but larger, built for a capacity of 420 gallons per hour.

Operation

Motive power for these outfits is supplied by an air cooled, $\frac{1}{2}$ horsepower gasoline engine, equipped with an easy working foot starter. The outfits can be made to stop automatically by using a cut-off or a

float switch—the cut-off switch being used with pressure tanks; the float switch for open tanks. The pressure tank is supplied with air by opening the air valve which comes on every pump.

Complete Outfits

Outfit R-202: Capacity 210 gallons per hour. Complete as illustrated with EVER-OILED Ball Bearing Pump, lubricated for life, guaranteed for two years; $\frac{1}{2}$ horsepower, air-cooled, 4 cycle engine with foot starter; endless V-belt; relief valve, air

valve. Mounted on heavy oak base. Price—See Price Sheet.

Outfit R-402: Capacity 420 gallons per hour. The same as R-202, but equipped with a larger pump. Price—See Price Sheet.

Extra Equipment

Gasoline Engine Cut-off Switch. Float Switch with float, rod and stops. Pressure Gauge. Water Gauge. Fig. 760,

1-inch galvanized foot valve and strainer. (See Accessories, pages 51 and 52.) For prices—See Price Sheet.

Furnished either with Flat Belt or V-Belt Pulley



Supplied with Fabric
Valves and Suitable Pack-
ing when used for Kero-
sene, Gasoline or Oils

Fig. 1784—EVER-OILED Ball Bearing Pump

G O U L D S

EVER-OILED

Figure 1784 Separate Pumps

As a power pump with capacities of 210 and 420 gallons per hour, this new Fig. 1784 EVER-OILED Ball Bearing Pump is more than just a pumping unit for water systems.

It is suitable for a large variety of services, including general water supply in industrial plants; circulating water in dairies or creameries; circulating water for air or gas compressors and internal combustion engines; handling oil in oil purifying systems; distillates;

filter service; process work; for use in priming larger pumps; and many other purposes. It is also recommended for replacing other pumps now in service where a dependable EVER-OILED trouble-proof pump is wanted.

A study of the construction features of this pump, as mentioned below, offer convincing reasons why we can back this unit with a two-year guarantee of satisfactory performance.

Single Cylinder, Single-Acting, Outside Plunger-Packed Type, Simplest Construction

1. *Crankshaft*—Forged steel counter-balanced to eliminate vibration; accurately ground to close limits.
2. *Ball Bearings*—Three ball bearings on crankshaft and upper connecting rod are packed in grease and sealed against dirt and moisture—lubricated for life; smooth, silent, long wearing.
3. *Roller Bearing*—Noiseless roller bearing on lower connecting rod is sealed in grease—lubricated for life; no wear, no noise, long life.
4. *Packing Gland*—Spring tension type. Keeps packing always tight. Does away with frequent adjusting. Cotter pins prevent nuts from working loose. Leakless, trouble-free.
5. *Plunger and Connecting Rod*—All bronze. Will not rust or corrode. Connecting rod nearly twice as long as any other; no side thrust, long life.
6. *Protective Hood*—All working parts of pump fully enclosed and protected. Hood may be removed by loosening two cap screws. Keeps dust and dirt out; long life.
7. *Packing*—Six soft flax rings impregnated with graphite. They stay soft and resist wear.
8. *Water Seal Ring*—Phosphor bronze. Prevents leakage at gland by leading seepage back to pump vacuum chamber. Acts as a plunger guide and relieves packing of wear. Trouble-proof, lengthens pump life.
9. *Air Chamber*—Extra large. Prevents undue water logging and assures an even flow of liquid. Insures quiet operation without pounding. Easily removed to reach valves quickly. Air valve standard equipment.
10. *Vacuum Chamber*—Built integral with pump. Only pump on market with vacuum chamber at its most effective point. Makes for quiet suction line by eliminating pounding.
11. *Bleeder Valve*—Oscillating poppet type. Keeps pump always primed. Stainless alloy, non-corrosive, will not stick. Oscillates with each movement of the plunger, which keeps it clean, and prevents clogging.
12. *Valves*—Two, extra large, instead of the usual four small ones. Highest quality rubber discs backed by bronze plates, will not dry out or crack. All parts excepting discs are of bronze. Simply assembled. Readily accessible, long wearing, trouble-proof.
13. *Discharge Connection Union*—Improved type. All bronze, cannot corrode. Ground joint. Leak-proof. Standard equipment. Makes disconnecting extremely simple.
14. *All Working Parts Carefully Fitted*—Made of highest grade metals obtainable. Machined to close working fits. Repair or replacement parts will always fit the pump. Entire design and construction of the pump insure a smoothness and quietness of operation and a length of life unequalled by any other pump.

SPECIFICATIONS

Two pulleys available—Specify which is wanted.

Capacity		Bronze Plunger		Speed Rev. per Min.	Suction Lift Feet	*Working Pressure Lbs.	For Elevation to Feet	Horsepower Required		Suction and Discharge Connection Inches	Overall Dimensions Inches	Pulley Sizes Inches		Hgt. Pulley Shaft	Ship-Wgt. Lbs.
Gals. per Hr.	Gals. per Min.	Diam. In.	Stroke In.					Elec. Motor	Gas Engine			Flat Pulley	"V" Pulley		
210	3.5	1 3/8	1 1/8	525	22	43	100	1/4	1/2	3/4	13 1/4 x 12 3/4 x 16 1/4 High	9 1/2 x 1 1/4	9 1/2	11 1/4	68
420	7	2 3/8	1 1/8	525	22	43	100	1/2	1/2	1	14 x 14 x 22 1/2 High	9 1/2 x 1 1/2	9 1/2	12 1/4	99

V-belt pulley groove dimensions—2 1/32" wide at top, 1/16" deep, 32° angle.

* This pump is designed for a maximum working pressure of 100 lbs. For pressures other than 43 lbs., consult Goulds Engineering Department regarding proper size motor, etc.

GOULDS SHALLOW WELL WATER SYSTEMS

How To Use the Engine Driven **EVER-OILED** Outfits For Pressure Tank Water Supply Systems

MAKE
YOUR OWN
WATER SYSTEM

CAN BE ARRANGED
TO SUIT YOUR
INDIVIDUAL
REQUIREMENTS



CHANGE OVER
TO ELECTRIC DRIVE
WHEN POWER
IS AVAILABLE

The EVER-OILED engine driven pumping units R-201, R-202, R-401, and R-402 are basic units which can be used in a number of ways to build your own water supply system. They can be used for either open or pressure tank service. An air valve is supplied, standard equipment, as part of each pump. We do not recommend tanks smaller than 315 gallons capacity; as engines must be started by hand and a sufficient supply of water should be available for at least one day's run. Automatic stopping can be had for either pressure or open tanks by use of gasoline engine cut-off switch or float switch to short-circuit the engine ignition. (See page 51.) The engines are exceptionally easy to start and are equipped with a kick foot starter which anyone can operate.

The above cut shows how to connect an engine driven pumping unit for pressure tank service. Connect the suction inlet of the priming chamber to

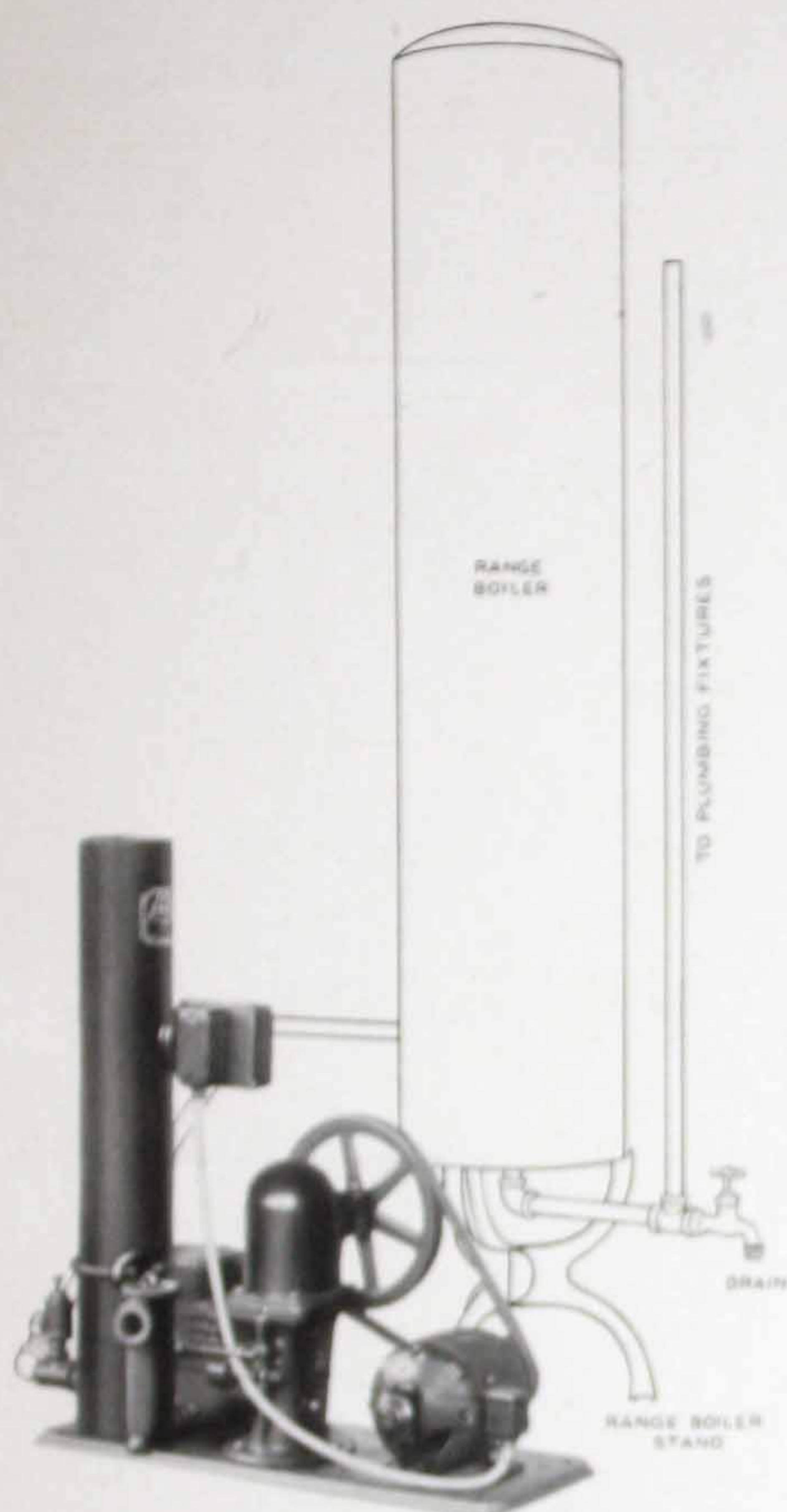
any source of supply that comes within the shallow well range. (See page 6.) The discharge union should be connected to the higher inlet tapping of the tank with relief valve between pump and shut-off gate valve. It is advisable to use a check valve between the gate valve and the relief valve. Discharge line from the tank should come from the lower tank tapping. Provide a drain at this point. Air may be pumped into the tank at any time by opening the air valve.

This same piping connection plan may be used for either vertical or horizontal tanks.

It is advisable to use a water gauge glass, to show where the water line is in determining when to pump air. The water line should be kept low in the glass.

We supply pump and engine unit complete with air valve and any accessories, but we do not sell the system complete as illustrated above.

GOULDS SHALLOW WELL WATER SYSTEMS



How An Ordinary Range Boiler Can Serve As a Storage Tank

When a customer desires a small storage supply, yet does not wish to invest in a complete water system, a Goulds EVER-OILED pumping unit can be hooked up to an ordinary range boiler as shown above. This outfit is Goulds EVER-OILED W-40. Outfit W-200 can also be installed in this manner; but with the pressure switch mounted on the tank at one of the upper openings.

Either of the installations is an attractive proposition both for dealer and consumer. It gives the dealer a flexible stock arrangement. He can sell the standard complete systems; or with a limited stock of W-40 Outfits and Pressure Gauges he can make a complete installation by connecting to a 30- or 40-gallon range boiler with pipe and fittings, all of which he already carries in stock.

The advantage of such a hook-up for the consumer is its unusually low cost. And when an increase in capacity is required, a larger storage tank and fittings can easily be supplied.



Ever-Oiled Water System "Demonstrator" for Dealers

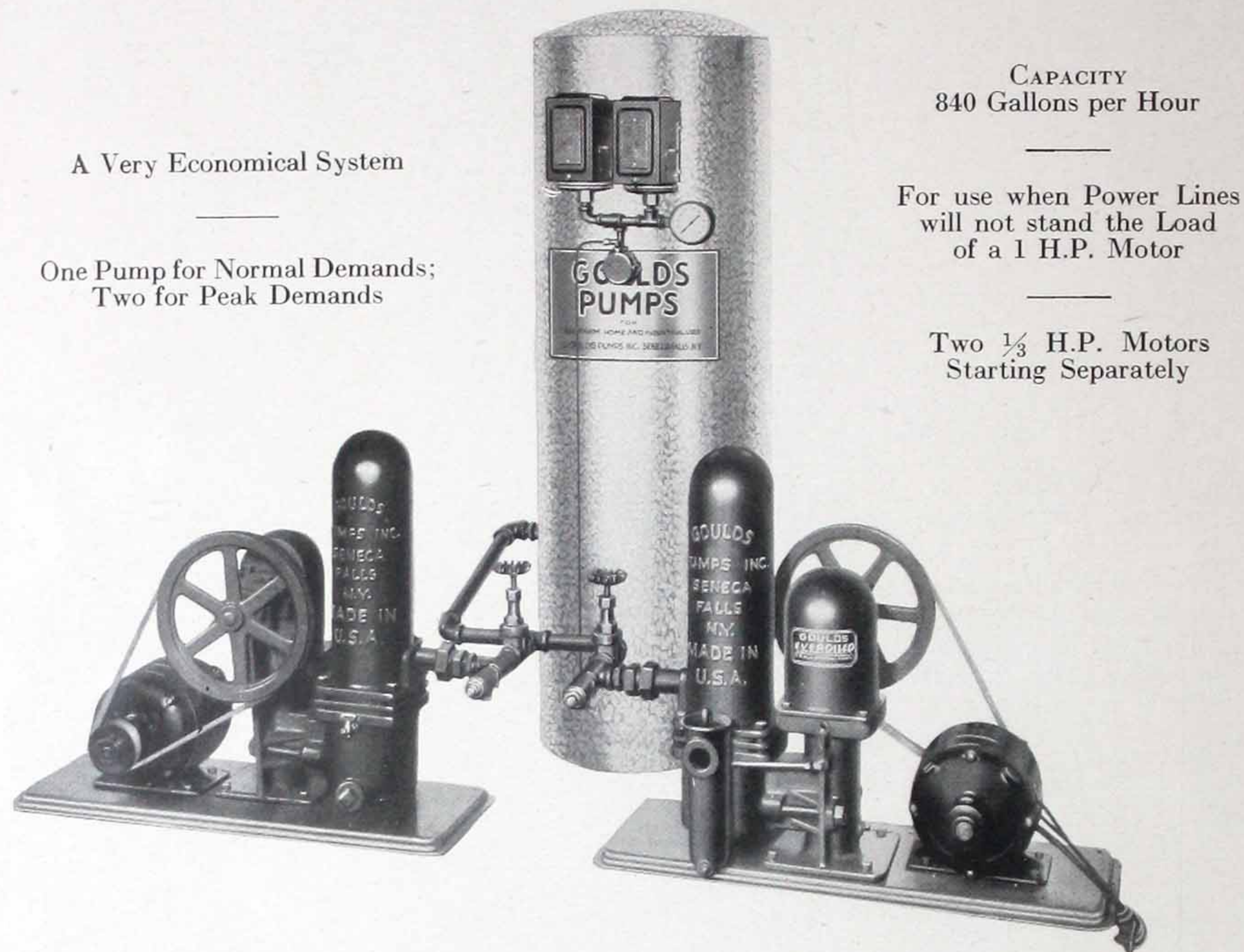
With this "Demonstrator" you can show prospective customers how quietly the EVER-OILED Water System runs and explain its many points of superiority. On your showroom floor or in your display window it has real "attention-getting" value—and goods properly displayed are half sold.

The outfit, attractively painted, with transfers and metal signs, includes Goulds EVER-OILED Water System W-40 complete as illustrated, mounted on a wood base with galvanized water supply tank inside, galvanized piping and nicked faucet. It is shipped to you completely assembled. Remove the crate and the "Demonstrator" is ready to run, merely by connecting to electric outlet. A profitable display for state and county fairs or other exhibitions.

The unit is compact, 18 x 35 x 48 $\frac{3}{4}$ inches high, weighs only 170 pounds and can easily be moved to any desired location. The W-40 Water System can be readily detached from the stand and sold on the spot. As every part is standard, a new system may be ordered to replace the one sold and only a few minutes will be required to make the change. The "Demonstrator" is priced well below its cost.

GOULDS SHALLOW WELL WATER SYSTEMS

How Two Pumping Units Can Be Used With One Storage Tank



A Very Economical System

One Pump for Normal Demands;
Two for Peak Demands

CAPACITY
840 Gallons per Hour

For use when Power Lines
will not stand the Load
of a 1 H.P. Motor

Two $\frac{1}{3}$ H.P. Motors
Starting Separately

On this page is illustrated the method by which two Goulds EVER-OILED Ball Bearing pumping units can be connected to the same storage tank.

Such a hook-up is a distinct advantage when a customer wants a bigger capacity outfit and his present wiring system is not great enough to carry the load of a larger motor; also, when the occasional withdrawal demand is greater than 420 gallons per hour.

This hook-up includes two Goulds EVER-OILED Ball Bearing pumping units, W-400, with a total capacity of 840 gallons per hour. The starting load on the wires will be only the starting current of a $\frac{1}{3}$ horsepower motor rather than that of a 1 horsepower motor.

This two-unit connection also shows how easily a greater capacity may be obtained when a customer who already has a water system wishes to increase his quantity of running water without the expense of replacing his present outfit. The added capacity may be obtained merely by connecting another pumping unit to his present outfit. With both pumps running, the water capacity is doubled.

Such a hook-up is also an advantage to the customer who requires continuous service from his outfit. Should one of the pumps become unserviceable through clogging or necessity for valve replacement, the other pump would still be available for service without intermission.

This idea of a two-unit hook-up is merely a suggestion for obtaining a better and greater water supply service. The unit is not a stock outfit.

The equipment for such a two-unit connection would consist of two Goulds EVER-OILED Outfits, W-400, (see page 21) and one 42-gallon galvanized storage tank, automatic air volume control, two pressure switches, pressure gauge and two relief valves, with pipe and fittings to connect discharge of pumps with tank. The two pressure switches should be set a few pounds apart so both motors do not start at the same time. If the normal withdrawal is less than 420 gallons per hour, one unit will handle the requirements without the other unit starting up. But if a heavy withdrawal is made, such as filling tanks, etc., first one and then the other unit will start up automatically to meet the conditions—a very economical pumping arrangement.

Goulds "Improved Pyramid" Pumps for Large Capacity Water Systems

Goulds "Improved Pyramid" is practically a new pump, made by re-designing the famous "Pyramid" which for years was universally accepted as the finest kind of pump for general water service. The "Improved Pyramid" is a single-cylinder, double-acting piston pump of the quiet, completely self-lubricating type—and employs features typical of modern times, which insure the utmost satisfaction to users. Study of the details presented here gives convincing proof of the service which may be expected—continuous, trouble-free. Most important is the complete separation of the cylinder from the power end. This makes it absolutely impossible for water to get into the crank case and cause oil dilution, scored bearings or similar troubles. Another feature of this construction places the stuffing box away from rather cramped quarters in the center of the pump, out in the open where it can be easily repacked.

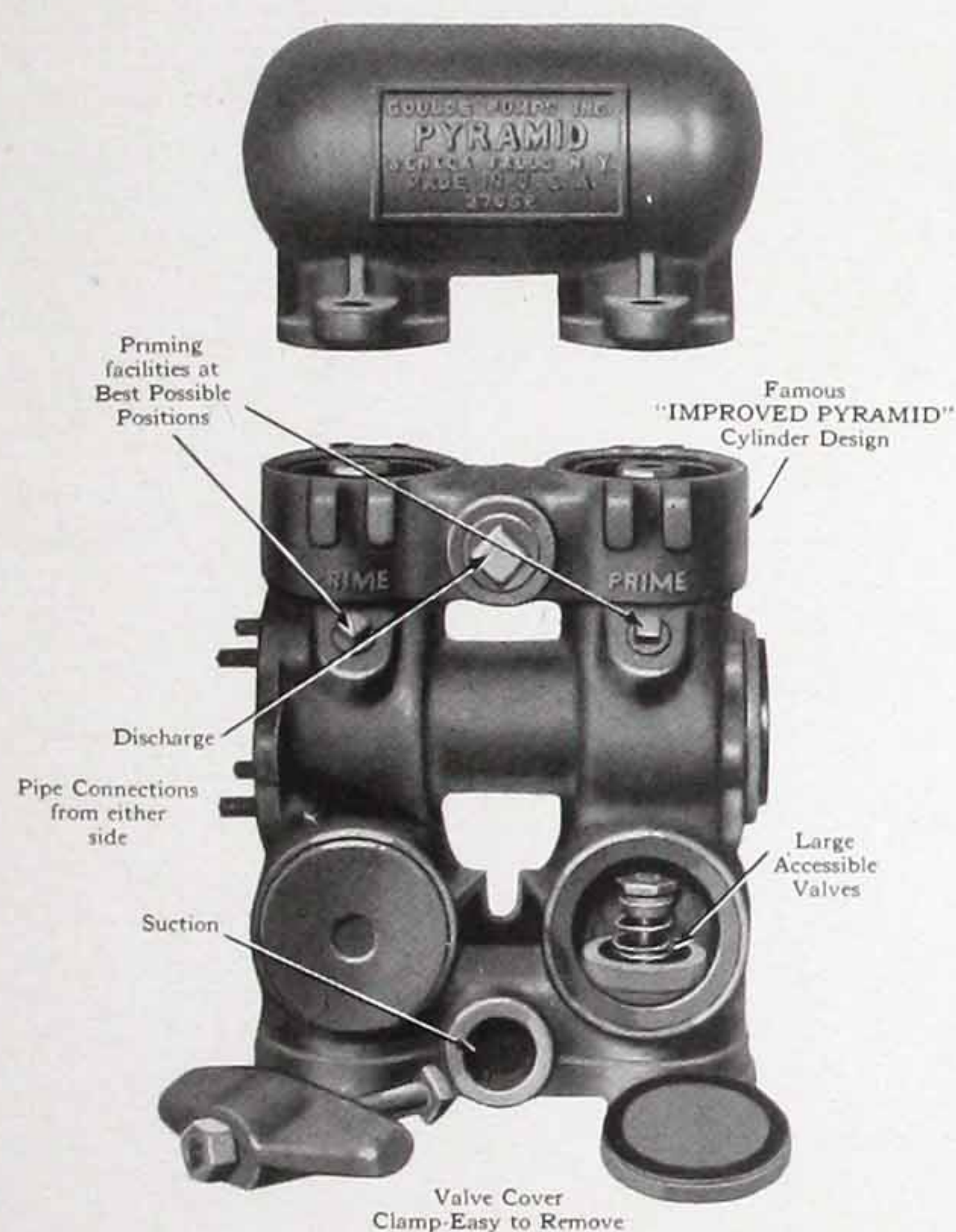


Fig. 8. Cylinder and Air Chamber

Fig. 8 shows the cylinder. The same general design of the old "Pyramid" pump has been followed, but the water ways have been further enlarged to give the most direct passage from inlet to discharge. Water moves in a straight line; it does not reverse its flow, nor does it encounter abrupt turns. Suction and discharge valves are easy to get at. A single clamp holds the suction valve covers with gaskets in recessed grooves to prevent blowing. The air chamber is quickly detached, without disturbing piping, to expose both discharge valves. These gaskets are also recessed. Priming is accomplished at the highest point in the cylinder. Both ends can be primed completely. Baffle walls in the discharge chamber keep discharge valves flooded at all times and insure self-priming. Suction and discharge connections may be made from either side. Cylinder is not over-hung, but rests securely on its own feet. Because of the unusually long stuffing box, the necessary minimum leakage for lubrication is possible without excessive gland pressure. This saves power, lengthens packing life, lessens adjustments and prevents scored rods.

Fig. 9 shows the crankcase unit with removable phosphor bronze bearing bushings. The rib under the left hand end

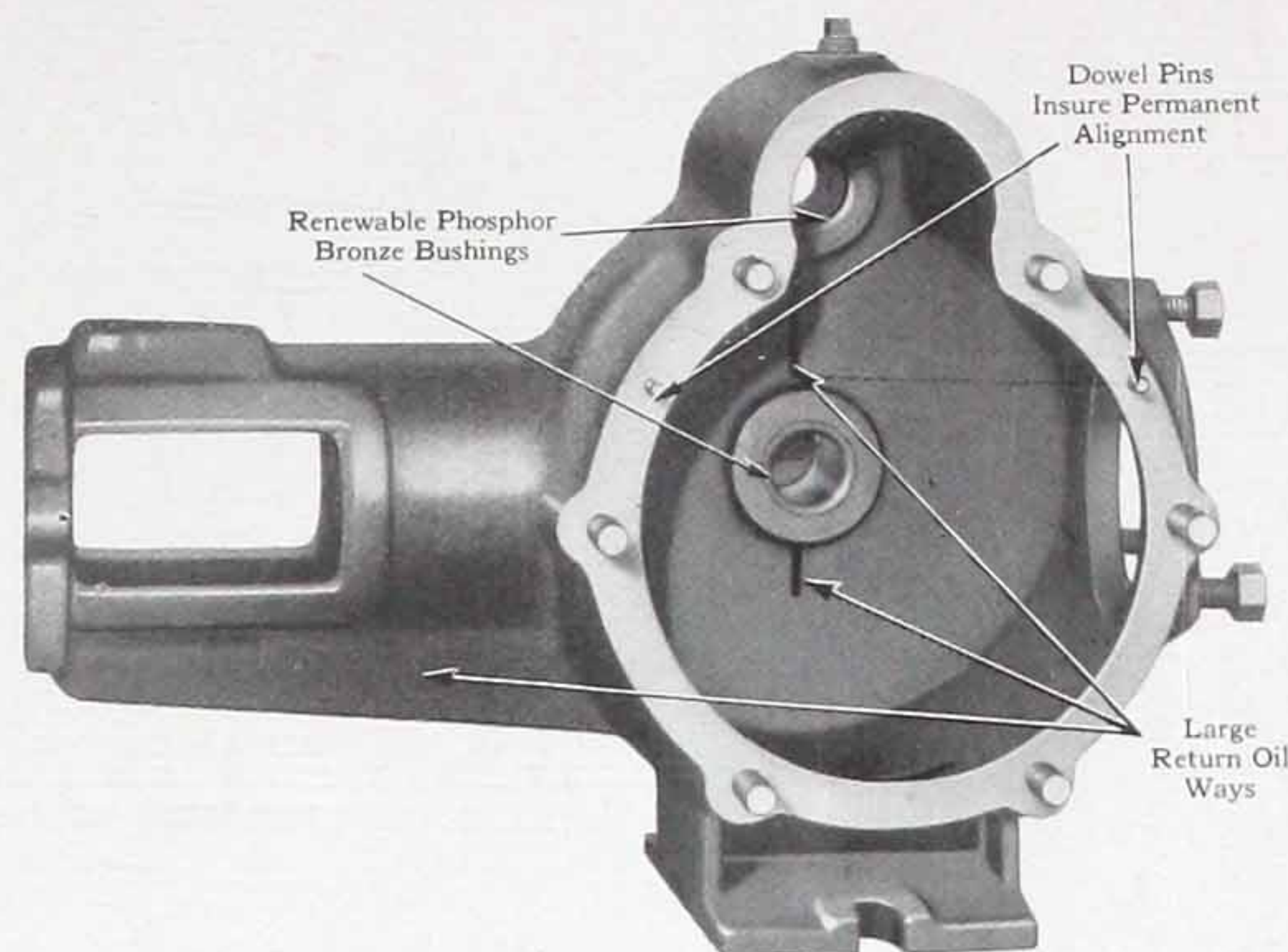


Fig. 9. Substantial Crankcase Design

carries the passageway for oil returning from the crosshead guide. Large return oil-ways may be seen below the bearing bushings. This permits oil to flush out bearings and return to the oil reservoir without clogging. Crankcase cover is doweled in place to give perfect alignment. Note the length and size of the crosshead guide and the extremely small opening into this area. Crankcase is completely sealed. No dirt or water can get in; no oil can get out. Thus permanent and continuous lubrication is assured. Pump may be run in either direction. The oil reservoir is easily reached through the large handhole.

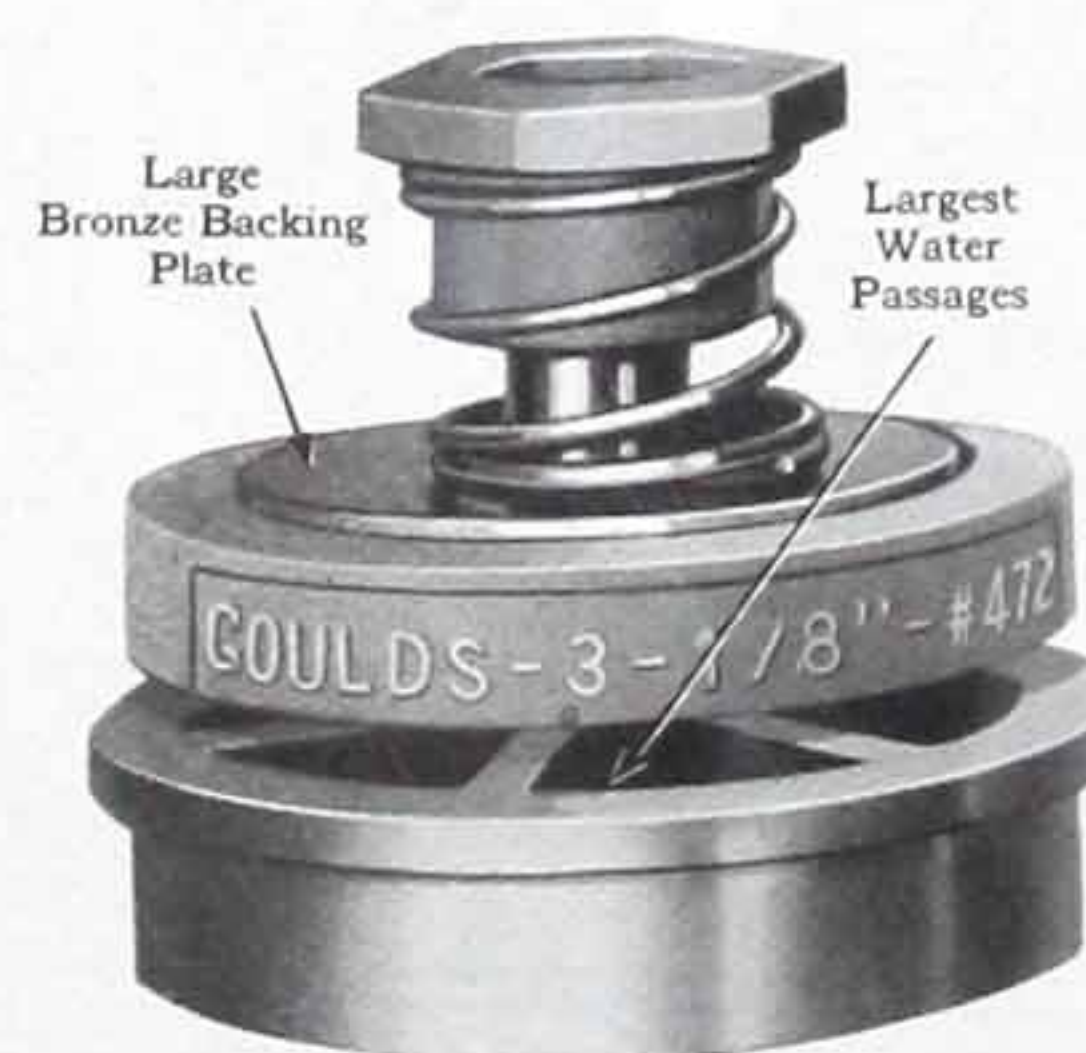
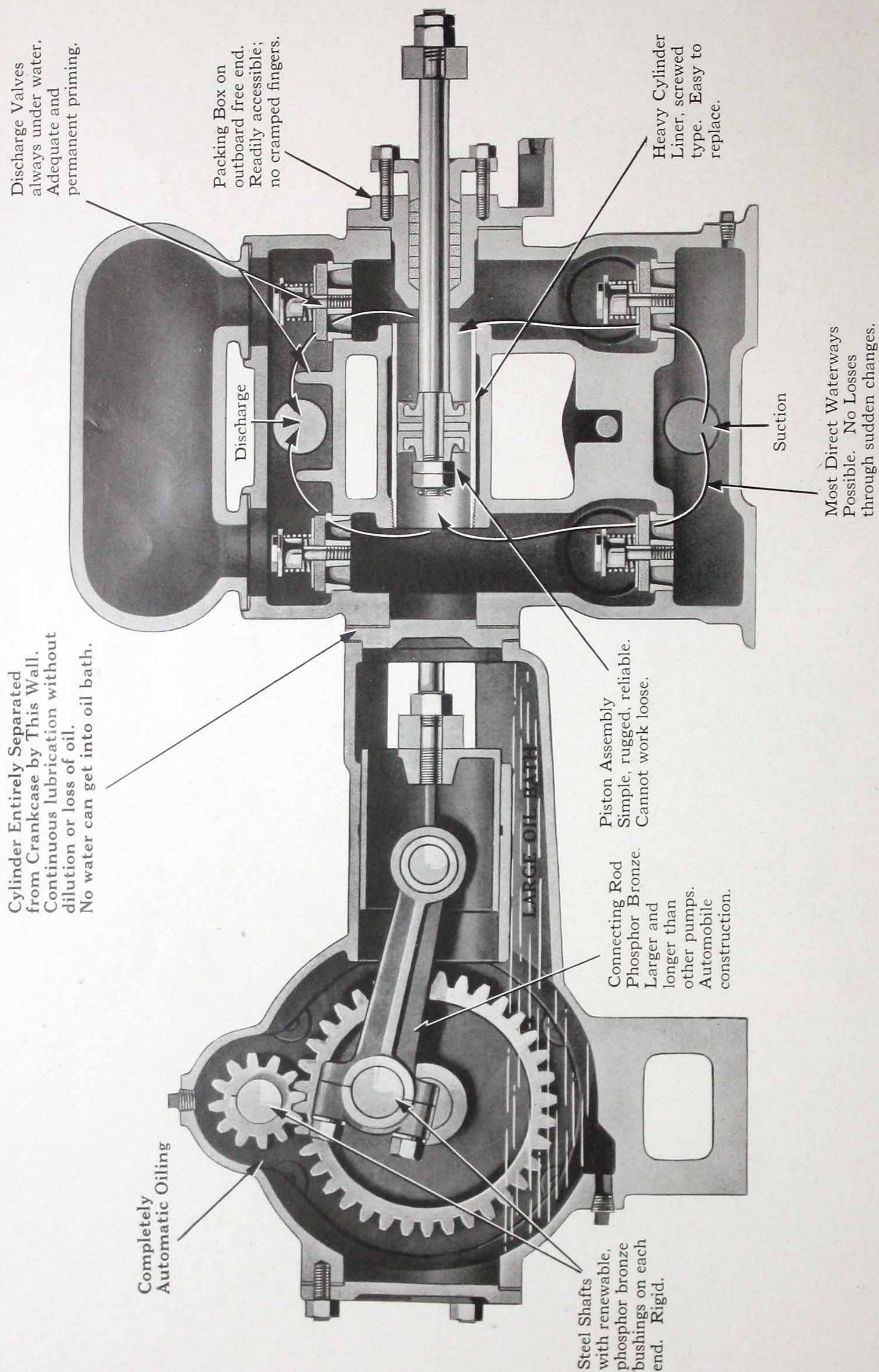


Fig. 10. Valve Assembly

Fig. 10 illustrates the valve assembly used in Goulds "Improved Pyramid" pumps. All parts are brass except the valve disc which is of high quality rubber.

Fig. 11 shows the screw-in type cylinder liner. All other similar pumps use a rolled liner. The screw type liner can be replaced easily without special tools. The tubing is unusually heavy and will last indefinitely.

Fig. 12 shows the pinion shaft assembly with the two phosphor bronze bearing bushings in place. Note the oil holes on top. These receive the oil from the oil throwers. The bearing bushings are grooved to insure complete flushing and oil distribution, and the oil then returns to the reservoir through large passageways. The pinion is of steel, accurately cut. The oil distributors on each side of the pinion catch the oil squirted from the meshing point of gear and pinion and distribute it in a flood to all bearing points. This is the most positive and adequate lubrication for any pump speed, without



PUMP CAN BE RUN EITHER DIRECTION

Sectional View—Fig. 1741—"Improved Pyramid" Pump

GOULDS SHALLOW WELL WATER SYSTEMS



Fig. 11. Cylinder Liner

separate pumps or intricate devices which might cause trouble. The gearing used for the "Improved Pyramid" is identical with that of the best automobile transmissions—greater in strength, longer in life and having the greatest over-lap of action. Our machining process assures its accuracy and permanent alignment.



Fig. 12. Pinion Shaft Assembly

Fig. 13 shows the crank and crosshead assembly. All of these parts are extremely heavy and well balanced. The crankshaft is drop forged steel with bearing surfaces highly polished. The gear is of uniform cross section and causes but slight disturbance of the oil. As a result the oil sediment settles to the bottom and only clean oil is distributed to the bearings. The connecting rod is unusually long, made of phosphor bronze

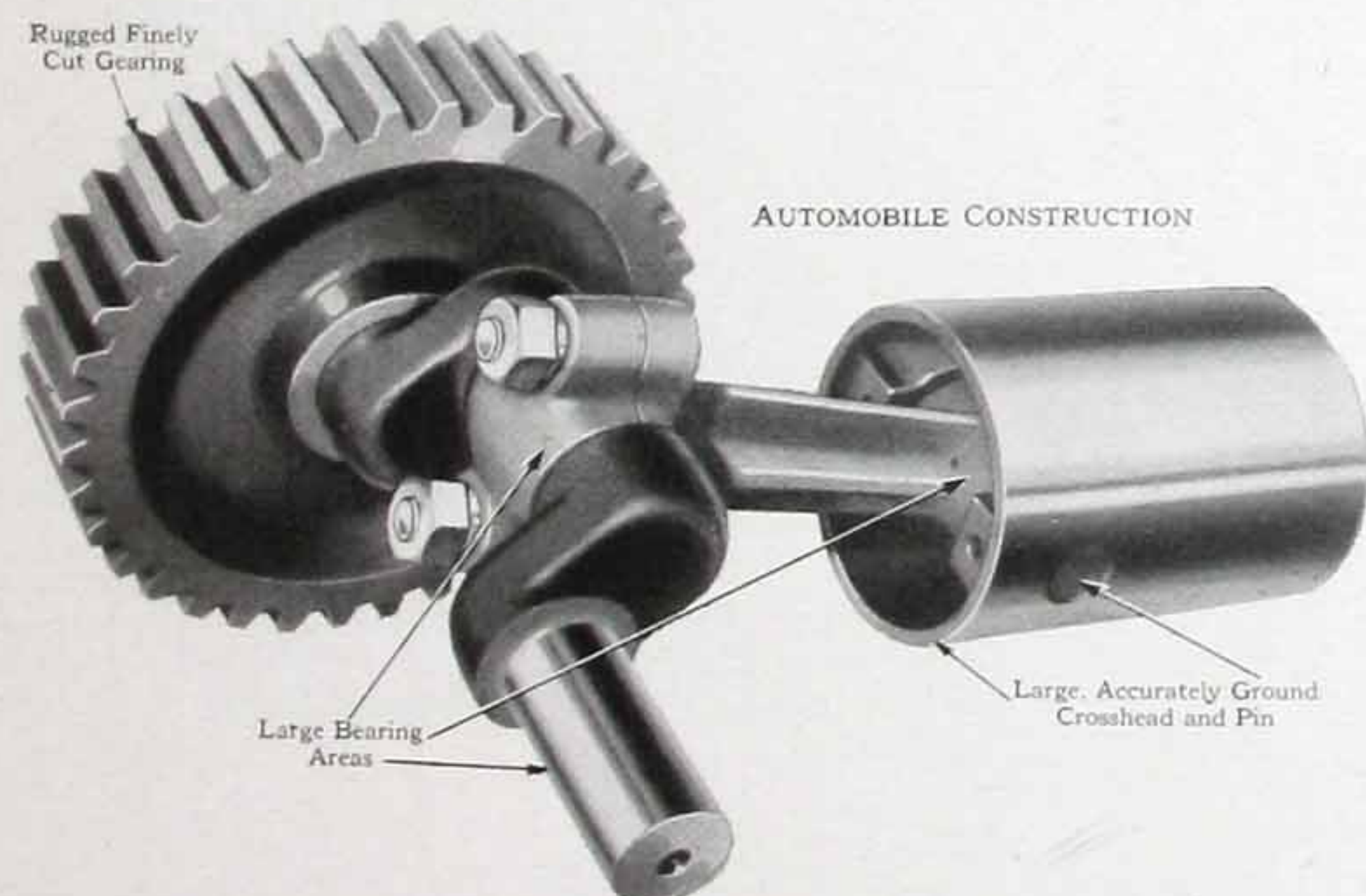


Fig. 13. Crank and Crosshead Assembly

with removable bearing cap, in approved automobile design. The crosshead end is fitted with a hardened and ground steel pin of unusually large bearing area. The crosshead is accurately ground and has many times the bearing area of similar pumps.

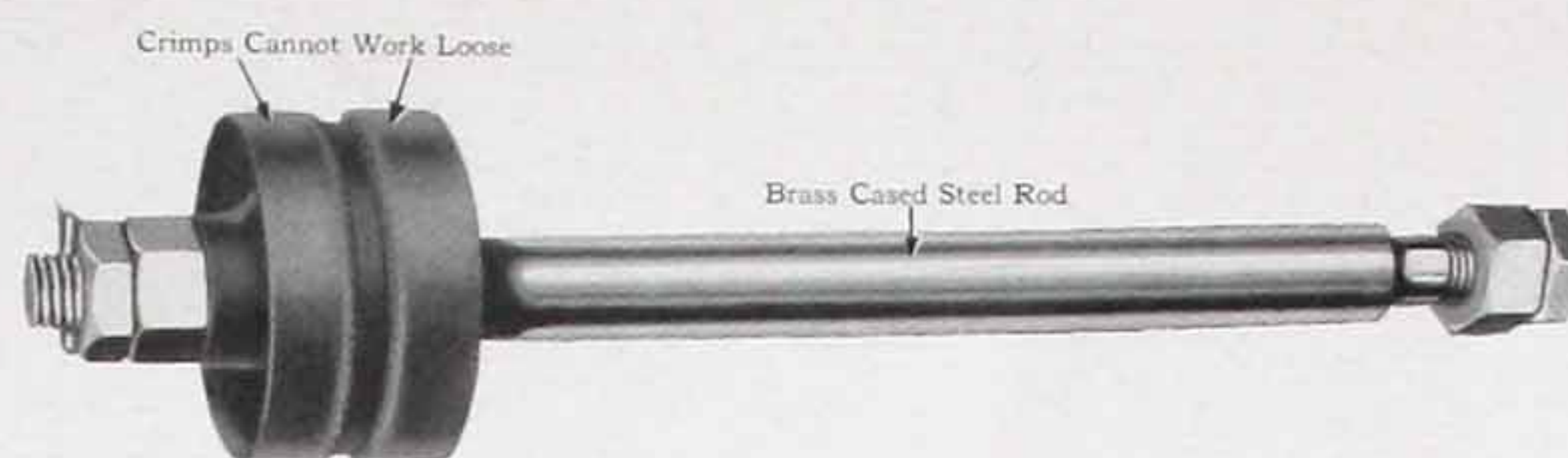
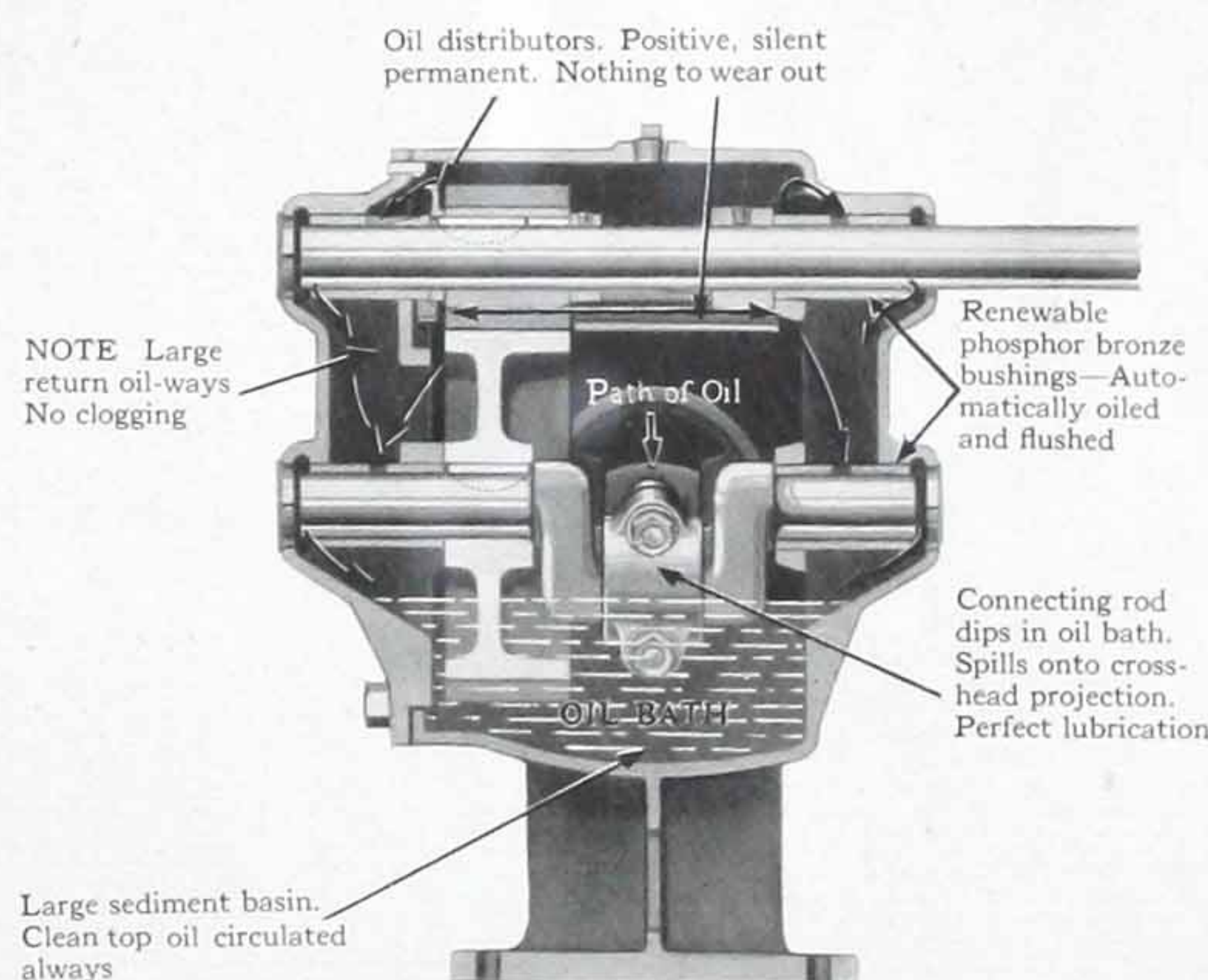


Fig. 14. Piston Rod Assembly

The long connecting rod, the long crosshead and the comparatively short stroke result in practically straight line motion with a minimum of side thrust. This assures extremely long life.

Fig. 14 gives the details of the "Improved Pyramid" piston assembly. The rod is steel with a brass case to prevent corrosion. The two leather crimps are made of the very best should-ers obtainable and are processed for long life. These crimps are held on the rod by double nuts, with the additional safety feature of the cotter key, which prevents them from working loose.

Air and Vacuum Chambers—The air chamber is extra large and is placed directly over the discharge valves where it will do the most good. The vacuum chamber of proper size may be installed on either side of the pump with the suction connection always made on the opposite side of the cylinder. This insures the best results by having the suction cushion directly opposite the end of the suction line.



PERMANENT OIL FILM MAINTAINED IN ALL BEARINGS

Fig. 15. Section through Power End

In addition to water supply service, the "Improved Pyramid" is ideal for handling gasoline, kerosene and oils and also for hot water service, boiler feeding, handling condensate, etc. For the above service the pump is supplied with valve discs made of Formica fabric and the surface packing, gland packing and piston construction is suitable for the liquids to be handled. Pumps are supplied for the above materials at a slight increase in cost. (See Price List.)

COMPLETELY
AUTOMATIC OILING



RELIEF VALVE
Furnished with Outfit
No. 7412 VA

V-BELT MOTOR DRIVE

The pump shown is our 3" x 2 $\frac{3}{4}$ ", with two belts. The 2" x 2" has the same general arrangement but with one belt

CAPACITIES

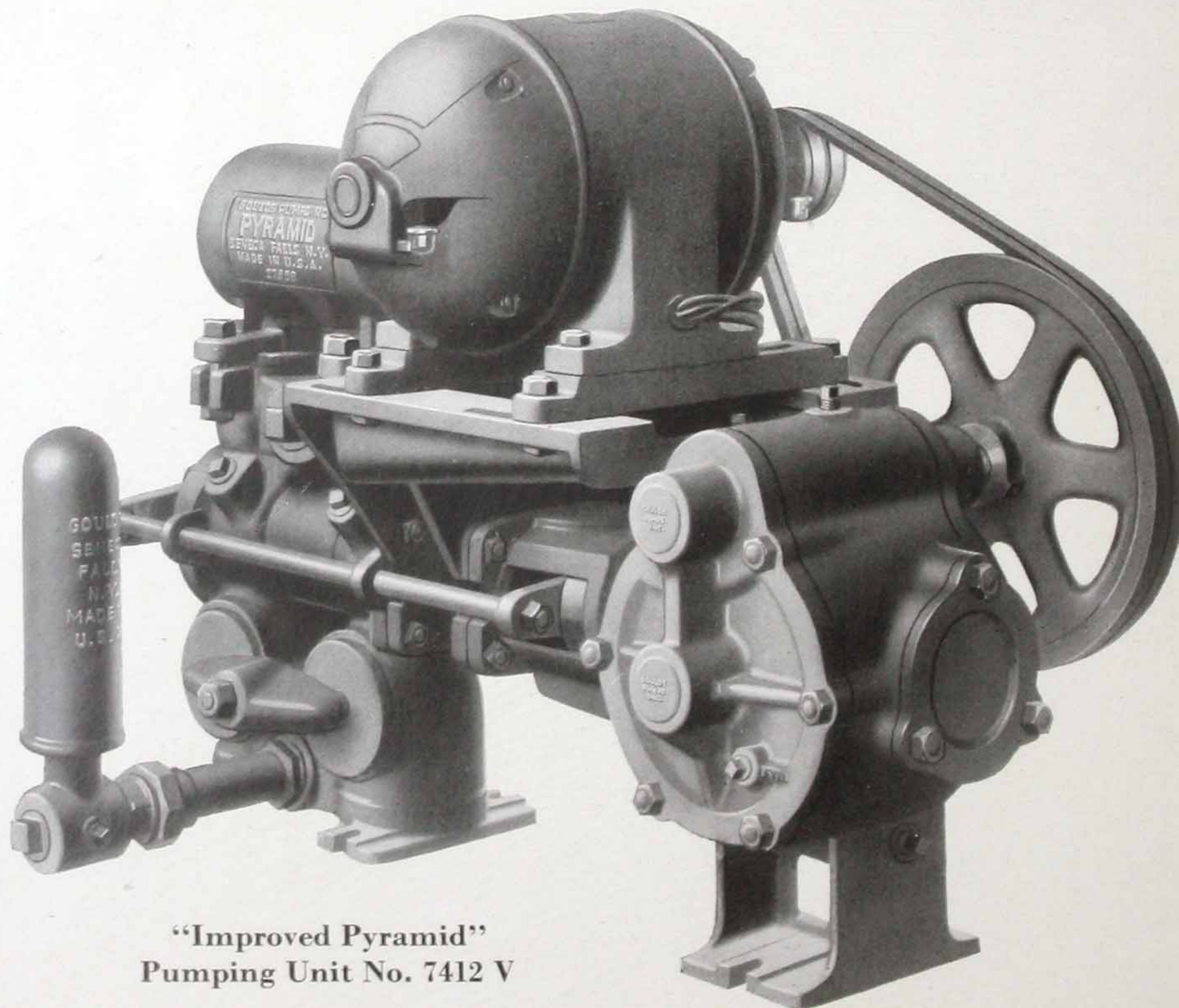
2" x 2" Outfit, 600 Gallons per Hour
3" x 2 $\frac{3}{4}$ " Outfit, 750 Gallons per Hour

Suction Lift 22 Feet

FLOOR SPACE

17" x 32 $\frac{3}{4}$ " x 23" high

Weights— $\frac{1}{2}$ H.P. Motor—228 lbs.
 $\frac{3}{4}$ H.P. Motor—248 lbs.



"Improved Pyramid"
Pumping Unit No. 7412 V

G O U L D S



"Improved Pyramid" Pumping Unit

V-Belt Drive

Capacities 600 and 750 Gallons per Hour

50 Pounds Pressure

This is the finest low-priced, large capacity pumping unit to be found. It has many uses on large dairy and produce farms, country estates, country clubs, in restaurants, creameries, factories, school houses or wherever capacities of 600 and 750 gallons per hour are required. Using this pumping unit as a basic unit, any required service may be met. It can be used for open or pressure tank service with any size tank to meet conditions as they exist.

The "Improved Pyramid" pump described in pages 33 to 35 is driven by an ample size motor

mounted over the pump and connected by a "V" type belt. The motor mounting is simple, strong and trouble-proof. There are no set screws to work loose causing motor misalignment. After years of thorough testing in many applications the V-belt has come to merit a permanent place as a drive of the highest type. It possesses qualities of smooth, flexible, quiet and trouble-free performance which make it the ideal pump drive. Adjustment of the belt is made by sliding the motor in slots provided in the motor bracket.

Operation

Supplied for either open or pressure tank service

For open tank service this pumping unit may be used with an automatic float switch to fill open overhead tanks or it may be started and stopped by hand for thousands of other applications. The automatic float switch starts the pump at the low level and stops it at the high tank level, preventing tank

overflow and yet maintaining always an adequate supply of water.

When used for pressure tank service, it may be connected to a pneumatic tank and controlled by a pressure switch. For such service the pump is equipped with an air valve for pumping air.

Equipment

No. 7412 V: Consists of "Improved Pyramid" 2' x 2' pumping unit, as illustrated, *for open tank service*, motor for 110-220 volts, 60 cycle, single phase, A.C. or 110 or 220 volts D.C., V-belt drive.

600 gallons per hour— $\frac{1}{2}$ horsepower Motor.
750 gallons per hour— $\frac{3}{4}$ horsepower Motor.

No. 7412 VA: Same as above but *for pressure tank service* and including relief valve and air valve.
Specify capacity and motor size required.

FOR SHALLOW WELLS: Suction lift 22 feet.

Suction and discharge openings—1 $\frac{1}{4}$ inch.

Floor Space—17" x 32 $\frac{3}{4}$ " x 23" high.

Specify voltage, cycles, phase and whether A.C or D.C.

There will be an extra charge for voltage or cycles other than listed. Can be supplied with motors for 25, 30 or 50 cycles.

For Prices—See Price Sheet.

Extra Equipment

Automatic Air Volume Control complete with tubing and fittings—for pressure tank service. Automatic Float Switch complete with float, 5-ft. rod and stops. Pressure Switch.

Water Gauge. Pressure Gauge. Relief Valve. Goulds Fig. 760, 1-inch Galvanized Foot Valve and Strainer. For Prices—See Price Sheet.

We can furnish pumping units of any capacity for water supply. If you do not find listed in this catalog the capacity outfit you desire, write us stating your requirements. Use information sheet at back of catalog.

COMPLETE SYSTEM
Entirely Automatic in Control
and Operation

COMPLETELY
AUTOMATIC OILING

V-BELT MOTOR DRIVE

The pump shown is our 3" x 2 $\frac{3}{4}$ ",
with two belts. The 2" x 2" has the
same general arrangement, but with
one belt

CAPACITIES

2" x 2" Outfit, 600 Gallons per Hr.
3" x 2 $\frac{3}{4}$ " Outfit, 750 Gallons per Hr.

Suction Lift 22 Feet.

FLOOR SPACE

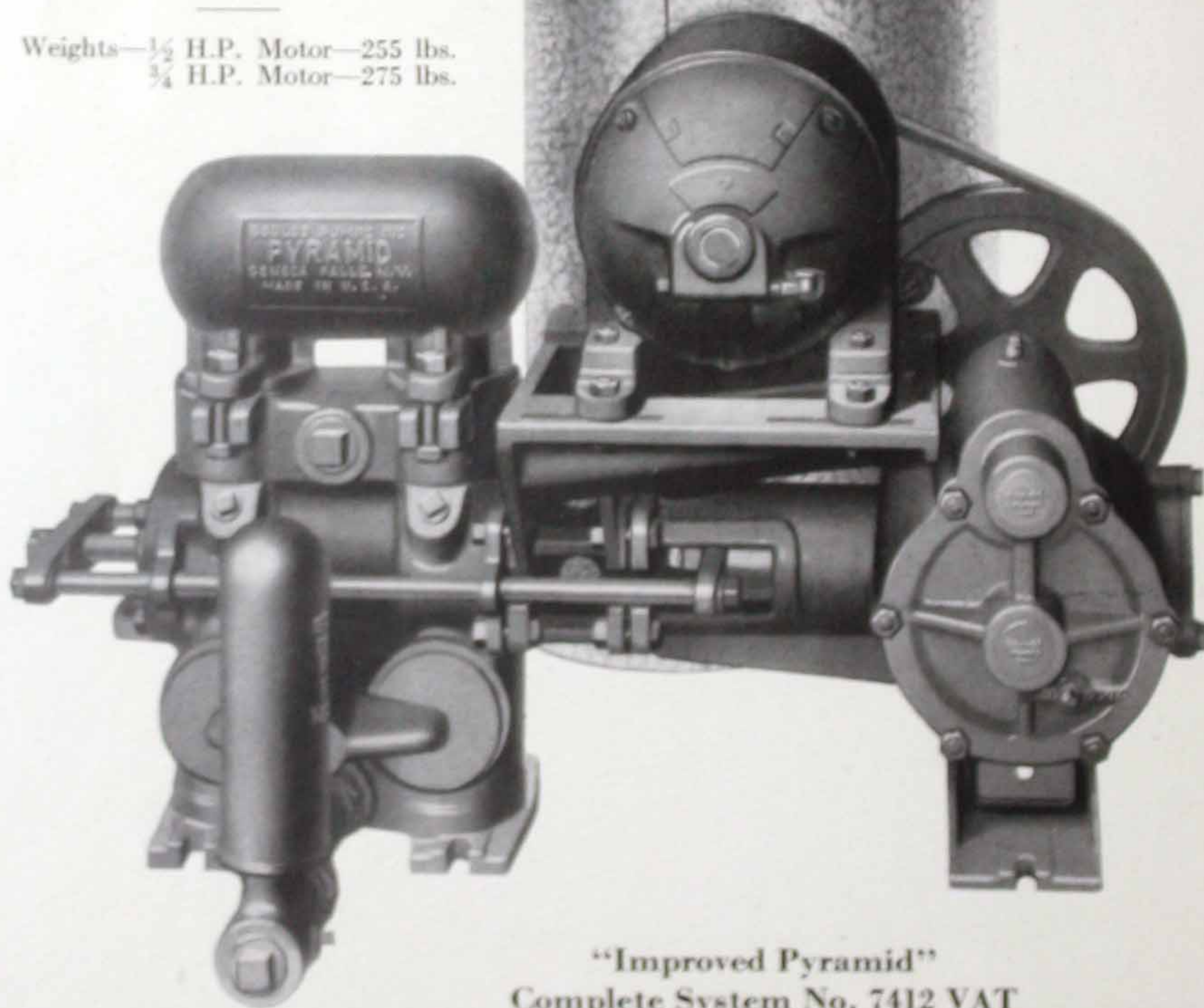
36" x 32 $\frac{3}{4}$ " x 50" high

Weights— $\frac{1}{2}$ H.P. Motor—255 lbs.
 $\frac{3}{4}$ H.P. Motor—275 lbs.

GOULDS
PUMPS

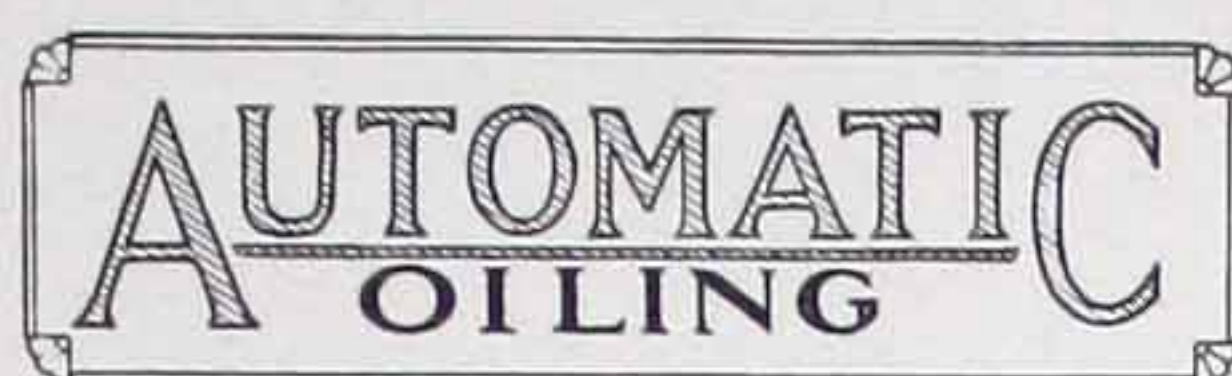
AUTOMATIC
AIR VOLUME
CONTROL

Prevents water-logged
or air-bound tank



"Improved Pyramid"
Complete System No. 7412 VAT

G O U L D S



"Improved Pyramid" Complete System

V-Belt Drive

Capacities 600 and 750 Gallons per Hour

In selecting a water system for your particular needs, be sure to get enough capacity. It is far better to over-estimate the quantity of water you will use, than to specify a system with a capacity which just meets your present requirements and which a year from now will prove altogether too small.

The outfit shown on the opposite page is a complete water system with capacities for large produce farms and dairies, factories, large camps, schools, apartments, etc.

The pumping unit is the new "Improved Pyramid"

shown on the previous page and described in detail on pages 33 to 35. It is driven by an electric motor of sufficient size to meet capacity requirements without overloading. The motor, mounted over the pump on a sturdy, rigid base, is connected to the power end by a V-belt drive.

This is a silent, flexible, dependable drive which has proved through years of service its ability to give trouble-free performance. We always recommend a flexible pump drive and this is an excellent one at low cost—sure to give satisfaction.

Operation

An electric pressure switch automatically controls the operation of this system. Water will flow from the storage tank at the turn of a faucet. When pressure in tank lowers to 23 pounds, the pump starts. It stops when the pressure increases to 43 pounds. Water-logged and air-bound tanks

are eliminated by the Automatic Air Volume Control which does not require attention and which automatically maintains the proper amount of air in the tank. The system is complete, with piping and control accessories, ready to install and use by wiring to electric circuit.

Equipment

No. 7412 VAT: Consists of "Improved Pyramid" 2" x 2" pumping unit, as illustrated, for pressure tank service; motor for 110-220 volts, 60 cycle, single phase, A.C. or 110 or 220 volts D.C.; V-belt drive; 42-gallon steel tank galvanized inside and out (see "Extra Equipment" below); Automatic Air Volume Control; pressure switch; pressure gauge, air valve, relief valve; galvanized piping and fittings for Automatic Air Volume Control, pump and tank.

600 gallons per hour— $\frac{1}{2}$ horsepower Motor.
750 gallons per hour— $\frac{3}{4}$ horsepower Motor.

FOR SHALLOW WELLS: Suction lift 22 feet.

Suction and discharge openings— $1\frac{1}{4}$ inches.

Floor space—36" x $32\frac{3}{4}$ " x 50" high.

Specify voltage, cycles, phase and whether A.C. or D.C.

There will be an extra charge for voltage other than listed above. Can be supplied with motors for 25, 30 or 50 cycles.

For Prices—See Price Sheet.

Extra Equipment

Goulds Fig. 760, 1-inch galvanized Foot Valve and Strainer. Storage tank is supplied only as listed. If a larger tank is

wanted, order No. 7412 VA, with size tank desired and necessary fittings. For Prices—See Price Sheet.

We can furnish pumping units of any capacity for water supply. If you do not find listed in this catalog the capacity outfit you desire, write us stating your requirements. Use information sheet at back of catalog.



RELIEF VALVE
Furnished with Outfit
No. 7412 BA

COMPLETELY AUTOMATIC OILING
ENCLOSED FLAT BELT MOTOR DRIVE

CAPACITIES

2" x 2" Outfit, 600 Gallons per Hour
3" x 2 3/4" Outfit, 750 Gallons per Hour

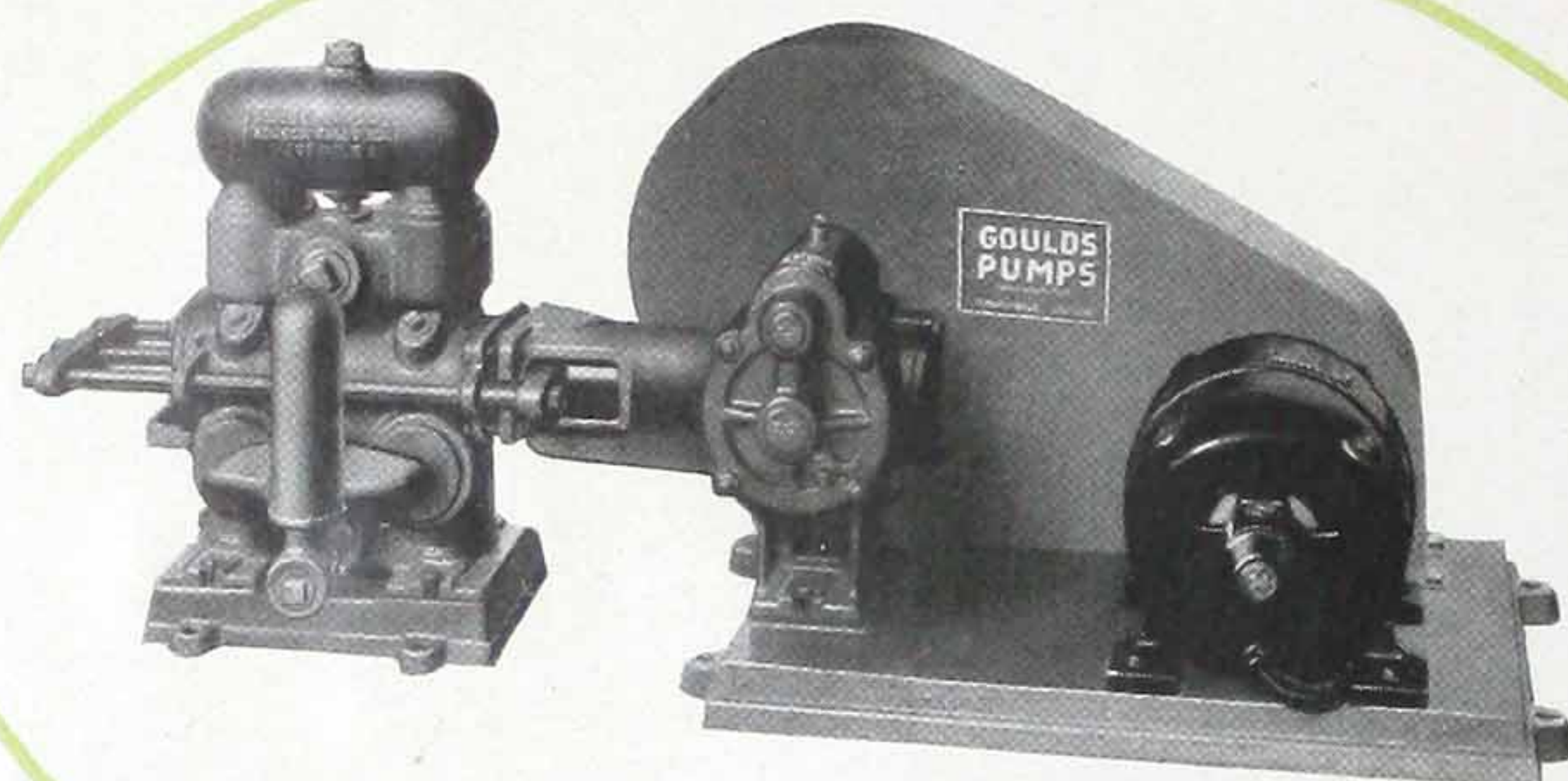
Suction Lift 22 Feet

FLOOR SPACE

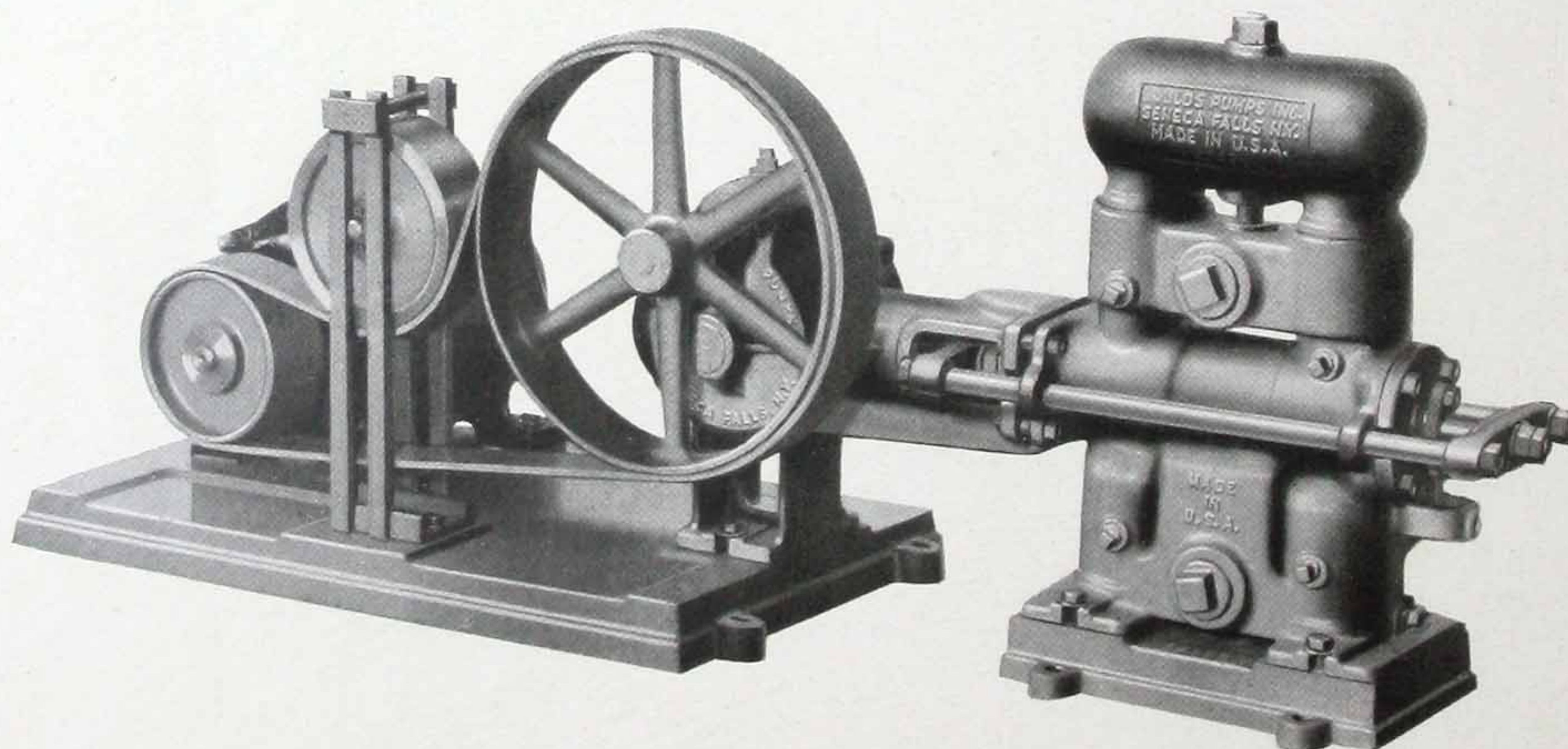
18" x 49 5/8" x 19 1/2" high

WEIGHTS

1/2 H.P. Motor—296 lbs.
3/4 H.P. Motor—316 lbs.



"Improved Pyramid" Pumping Unit
No. 7412 B, with Cover on



"Improved Pyramid" Pumping Unit No. 7412 B
(With cover off)

GOULDS



"Improved Pyramid" Pumping Unit Enclosed Flexible Belt Drive

**Capacities 600 and 750 Gallons per Hour
50 Pounds Pressure**

One of the important points for which Goulds "Pyramid" Pump has long been noted is its steady, dependable performance—its ability to hold up under long, continuous service. The new "Improved Pyramid" has many vital improvements described in detail on pages 33 to 35, which make it right up to the minute in modern pumping equipment and even more reliable than its predecessor. With this as a basic unit, any required water supply service may be met.

The fully enclosed flexible belt drive used is the

best drive possible for pumping equipment. The belt, of extra wide, mineral tanned "Vim" leather, with 20% more pulling power than oak tanned leather, connects the pump and motor to make a flexible, shock-absorbing drive. It is automatically and permanently kept at the proper tension by a ball bearing, floating-type idler which does not require lubrication or attention. This ideal drive is then fully enclosed in a welded steel case to keep out moisture, dust and oil. With perfect assurance we recommend this drive for the hardest jobs.

Operation

Supplied for either open or pressure tank service

When used to fill open, overhead tanks an automatic float switch is desirable. The float switch starts the pump at the low tank level and stops it at the high level. No danger of overflow; yet adequate supply is always maintained.

When ordered for pressure tank service, this unit is connected to a pneumatic tank and a pressure switch may be used to control its operation. An air valve for pumping air is supplied to maintain the air cushion in the tank.

Equipment

No. 7412 B: Includes "Improved Pyramid" 2" x 2" pumping unit, as illustrated, *for open tank service*, motor for 110-220 volts, 60 cycles, single phase, A.C. or 110 or 220 volts, D.C., flat belt and ball bearing belt tightener, fully enclosed, mounted on cast iron base.

600 gallons per hour— $\frac{1}{2}$ horsepower Motor.
750 gallons per hour— $\frac{3}{4}$ horsepower Motor.

No. 7412 BA: Same as above but *for pressure tank service* and including relief valve and air valve.

FOR SHALLOW WELLS: Suction lift 22 feet.

Suction and discharge openings—1 $\frac{1}{4}$ inches.

Floor space—18" x 49 $\frac{5}{8}$ " x 19 $\frac{1}{2}$ " high.

Specify capacity and motor size required.

Specify voltage, cycles, phase and whether A.C. or D.C.

Only 1750 R.P.M. motors can be supplied.

For Prices—See Price Sheet.

Extra Equipment

Automatic Air Volume Control, complete with tubing and fittings, for pressure tank service. Automatic Float Switch complete with float, 5ft. rod and stops. Pressure Switch.

Water Gauge. Pressure Gauge. Relief Valve. Goulds Fig. 760, 1-inch galvanized Foot Valve and Strainer. For Prices—See Price Sheet.

We can furnish pumping units of any capacity for water supply. If you do not find listed in this catalog the capacity outfit you desire, write us stating your requirements. Use information sheet at back of catalog.

COMPLETE SYSTEM
Entirely Automatic in Control
and Operation

**COMPLETELY
AUTOMATIC OILING**

**ENCLOSED FLAT BELT
MOTOR DRIVE**

CAPACITIES
2" x 2" Outfit, 600 Gals. per Hr.
3" x 2 3/4" Outfit, 750 Gals. per Hr.

Suction Lift 22 Feet

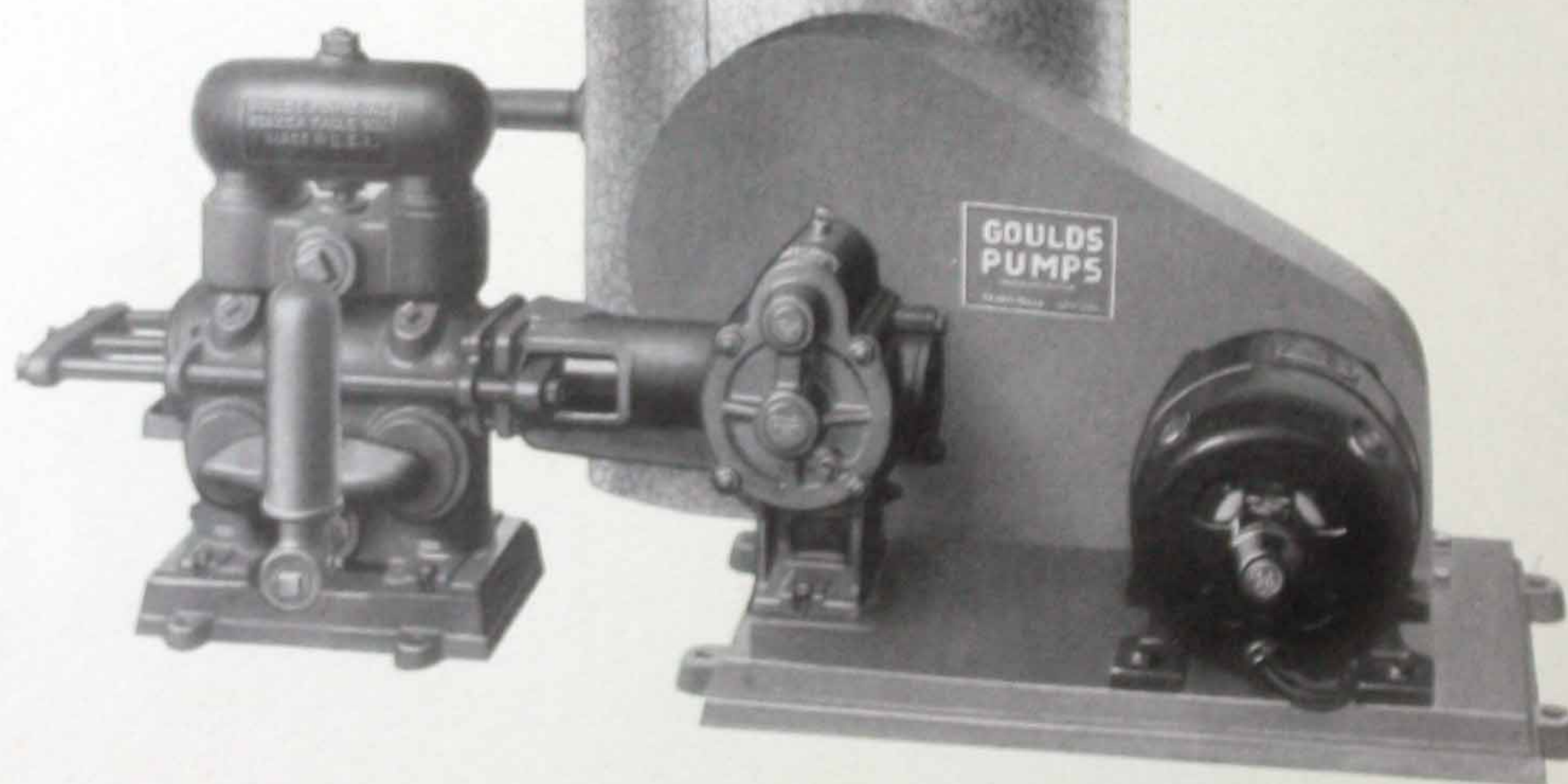
FLOOR SPACE
36" x 49 5/8" x 50" high

WEIGHTS
1/2 H.P. Motor—340 lbs.
3/4 H.P. Motor—360 lbs.

**GOULDS
PUMPS**

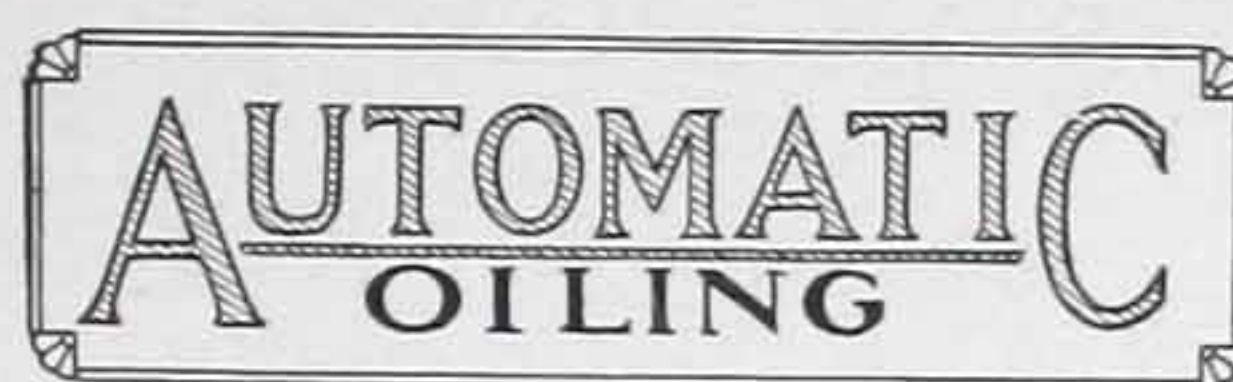
**AUTOMATIC
AIR VOLUME
CONTROL**

Prevents water-logged
or air-bound tank



"Improved Pyramid"
Complete System No. 7412 BAT

G O U L D S



"Improved Pyramid" Complete System

Enclosed Flexible Belt Drive

Capacities 600 and 750 Gallons per Hour

Dependability is always a factor to consider when installing a water system, and nowhere is reliable performance of greater importance than in a large capacity water system used to service dairy or produce farms, country day schools, camp and summer cottage colonies, health institutions and similar locations dependent upon their own water supply.

Goulds "Improved Pyramid" pump, fully described on pages 33 to 35, needs no further comment here. Its dependability as a large capacity water

supply pump has long been proved by its years of satisfactory performance. The drive is the finest flat belt type, using "Vim" leather belt, a ball bearing belt tightener, lubricated for life, absolutely attention-free, all entirely enclosed and protected. This type of drive is desired for its flexibility, its smooth and quiet operation and its long wearing qualities. The slight additional cost is more than justified by its trouble-free, quality performance.

Operation

Controlled by an electric pressure switch, this outfit is completely automatic. Water flows the minute a faucet is opened. The pump starts when tank pressure gets down to 23 pounds, and stops when the pressure rises to 43 pounds, automatically maintaining pressure between these limits.

The Automatic Air Volume Control keeps the right amount of air in storage tank at all times, without attention, and prevents an air-bound or water-logged condition. All accessories, galvanized piping and fittings are included, ready for installation.

Equipment

No. 7412 BAT: Complete with "Improved Pyramid" 2" x 2" pumping unit, as illustrated, for pressure service; motor for 110-220 volts, 60 cycle, single phase, A.C. or 110 or 220 volts D.C.; enclosed flexible drive, mounted on cast iron base; 42-gallon steel tank galvanized inside and out (see "Extra Equipment" below); Automatic Air Volume Control; pressure switch, pressure gauge, air valve, relief valve and galvanized piping for Automatic Air Volume Control, pump and tank.

600 gallons per hour— $\frac{1}{2}$ horsepower Motor.
750 gallons per hour— $\frac{3}{4}$ horsepower Motor.

FOR SHALLOW WELLS: Suction lift 22 feet.

Suction and discharge openings—1 $\frac{1}{4}$ inches.

Floor space—36" x 49 $\frac{5}{8}$ " x 50" high.

Specify capacity and motor size required.

Specify voltage, cycles, phase and whether A.C. or D.C.

Only 1750 R.P.M. motors can be supplied.

For Prices—See Price Sheet.

Extra Equipment

Goulds Fig. 760, 1-inch galvanized Foot Valve and Strainer. Storage tank is supplied only as listed. If a larger tank is

wanted, order No. 7412 BA, with size tank desired and necessary fittings. For Prices—See Price Sheet.

We can furnish pumping units of any capacity for water supply. If you do not find listed in this catalog the capacity outfit you desire, write us stating your requirements. Use information sheet at back of catalog.

COMPLETELY
AUTOMATIC OILING



RELIEF VALVE
Furnished with Outfit
No. 7412 CA

SILENT CHAIN MOTOR DRIVE

The pump shown is our 3" x 2 $\frac{3}{4}$ ". The
2" x 2" has the same general arrangement

CAPACITIES

2" x 2" Outfit, 600 Gallons per Hour
3" x 2 $\frac{3}{4}$ " Outfit, 750 Gallons per Hour

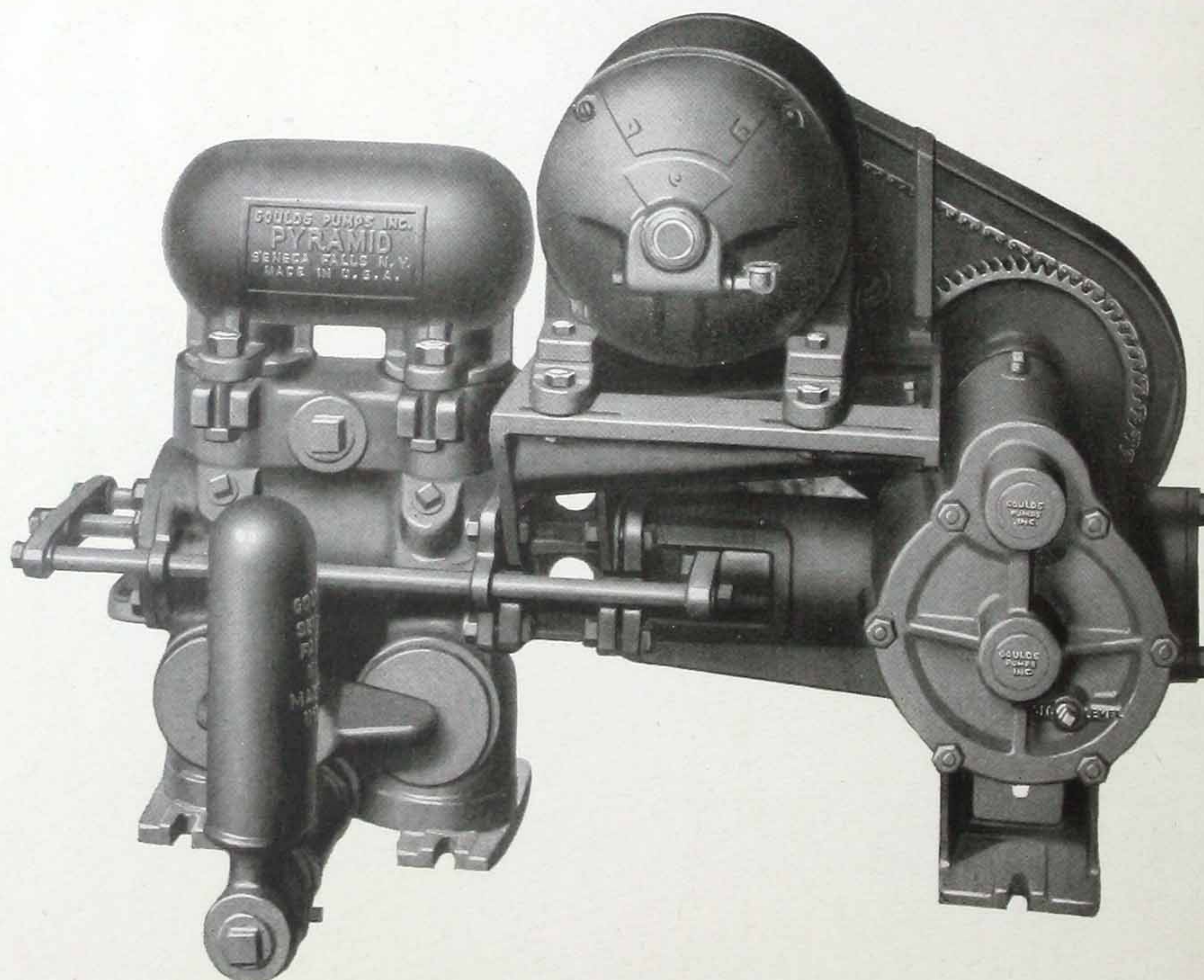
Suction Lift 22 Feet

FLOOR SPACE

17" x 32 $\frac{3}{4}$ " x 23" high

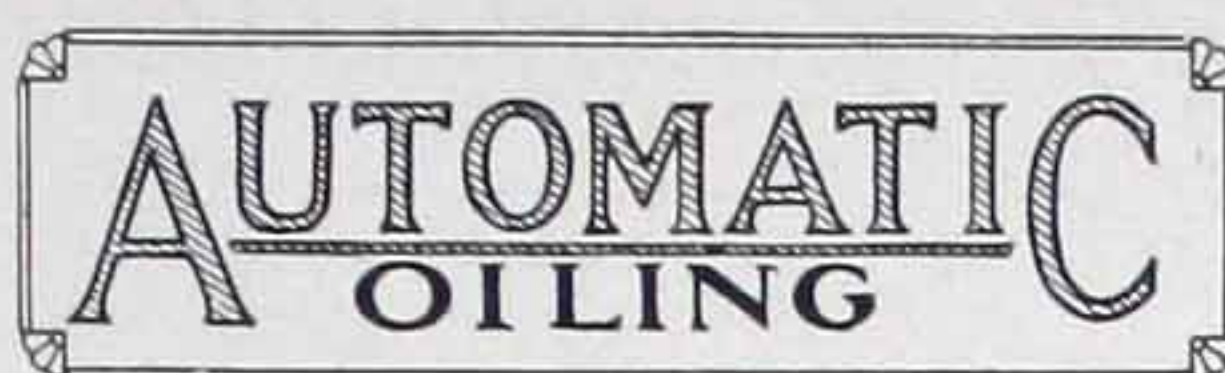
WEIGHTS

$\frac{1}{2}$ H.P. Motor—236 lbs.
 $\frac{3}{4}$ H.P. Motor—256 lbs.



"Improved Pyramid"
Pumping Unit No. 7412 C

G O U L D S



"Improved Pyramid" Pumping Unit

Silent Chain Drive

Capacity 600 and 750 Gallons per Hour

50 Pounds Pressure

Running water in abundant quantities will do more to lessen labor and expenses on the farm than any other modern convenience. In the "Improved Pyramid", we offer a pumping unit capable of handling large capacities, which for reliability and for satisfaction in the service it will render, will excel any other large capacity outfit on the market. This is an excellent unit for industrial uses and can be installed to meet any requirements for pressure tank, open tank or circulating service,

either automatically or hand controlled. For your own conviction, compare the features of this pump, as described on pages 33 to 35, with those of other water system pumps of these capacities.

To meet the demand for chain driven equipment we have developed a motor mounting of the simplest type and adopted the best chain drive available. For those who desire a positive drive, no better can be found. It is fully guarded.

Operation

Supplied either for open or pressure tank service

For service in filling open overhead tanks, an automatic float switch is desirable to give complete automatic operation. The outfit can also be started and stopped by hand when used for many other

purposes. Used for pressure service, this unit is controlled by an electric pressure switch, and we supply it for this service equipped with an air valve for pumping air.

Equipment

No. 7412 C: Includes "Improved Pyramid" 2" x 2" pumping unit, as illustrated, *for open tank service*; motor for 110-220 volts, 60 cycle, single phase, A.C., or 110 or 220 volts D.C.; Morse Silent Chain Drive.

600 gallons per hour— $\frac{1}{2}$ horsepower Motor.

750 gallons per hour— $\frac{3}{4}$ horsepower Motor.

Specify capacity and motor size required.

No. 7412 CA: Same as above but *for pressure tank service*; includes relief valve and air valve.

FOR SHALLOW WELLS: Suction lift 22 feet.

Suction and discharge openings— $1\frac{1}{4}$ inches.

Floor space— $17'' \times 32\frac{3}{4}'' \times 23''$ high.

Specify voltage, cycles, phase and whether A.C or D.C.

Supplied only for motor ratings listed.

For Prices—See Price Sheet.

Extra Equipment

Automatic Air Volume Control, complete with tubing and fittings, for pressure tank service. Automatic Float Switch, complete with float, 5-ft. rod and stops. Pressure Switch.

Water Gauge. Pressure Gauge. Relief Valve. Goulds Fig. 760, 1-inch galvanized, Foot Valve and Strainer. For Prices—See Price Sheet.

We can furnish pumping units of any capacity for water supply. If you do not find listed in this catalog the capacity outfit you desire, write us stating your requirements. Use information sheet at back of catalog.

COMPLETE SYSTEM

Entirely Automatic in Control and Operation

COMPLETELY AUTOMATIC OILING

SILENT CHAIN MOTOR DRIVE

The pump shown is our 3" x 2 3/4". The 2" x 2" pump has the same general arrangement

CAPACITIES

2" x 2" Outfit, 600 Gallons per Hour
3" x 2 3/4" Outfit, 750 Gallons per Hour

Suction Lift 22 Feet

FLOOR SPACE

36" x 32 3/4" x 50" high

WEIGHTS

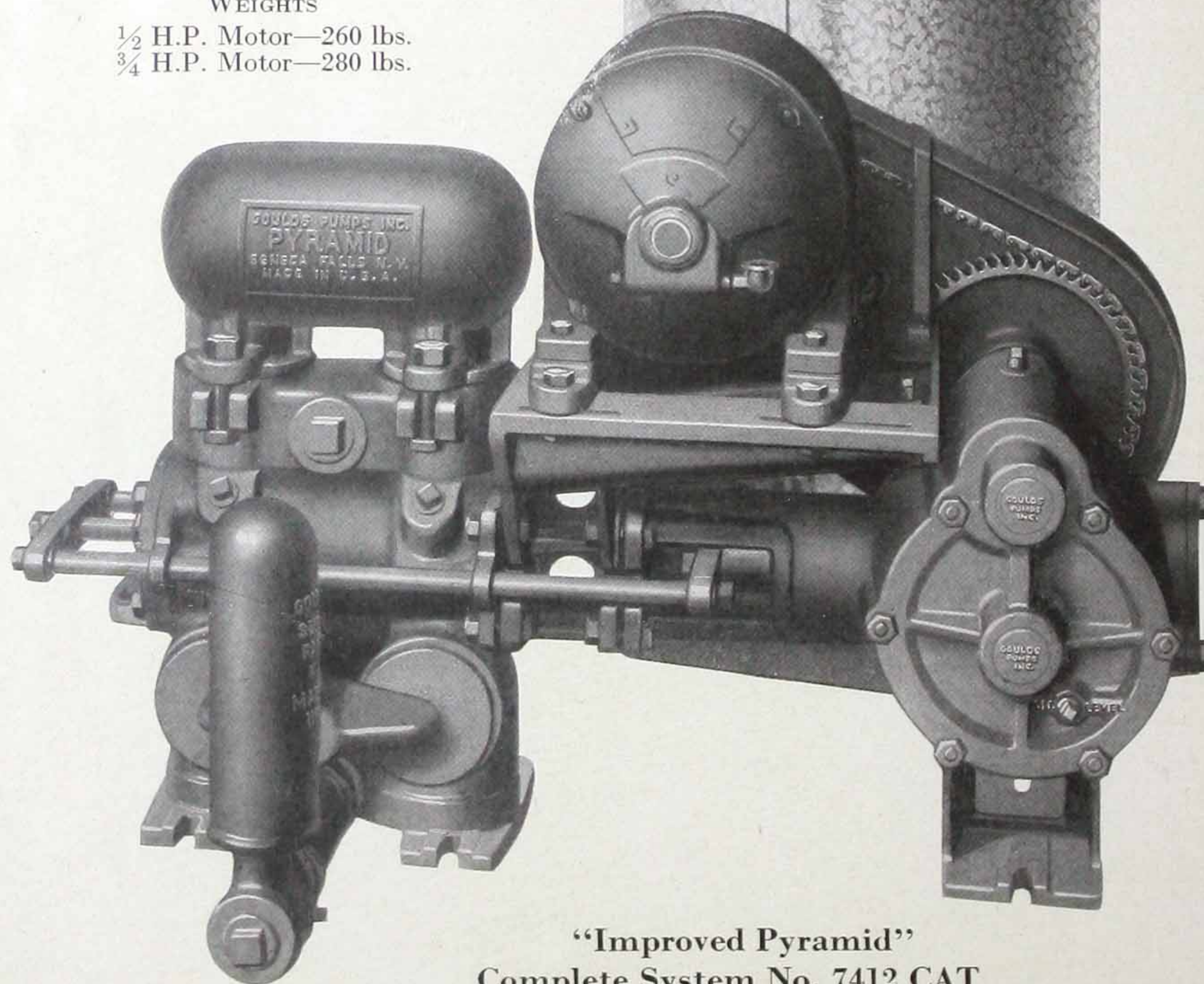
1/2 H.P. Motor—260 lbs.
3/4 H.P. Motor—280 lbs.

**GOULDS
PUMPS**

Every Farm, Home & Industrial Use
GOULDS PUMPS

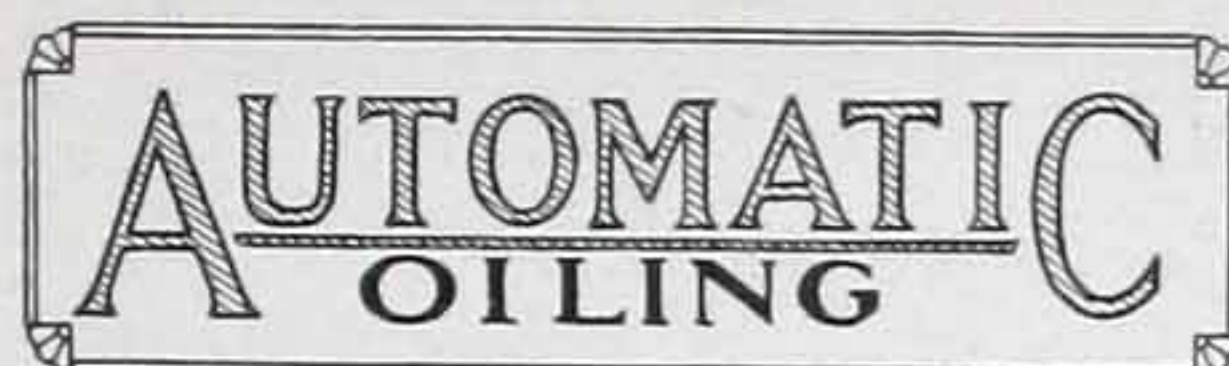
AUTOMATIC AIR VOLUME CONTROL

Prevents water-logged
or air-bound tank



"Improved Pyramid"
Complete System No. 7412 CAT

G O U L D S



"Improved Pyramid" Complete System

Silent Chain Drive

Capacities 600 and 750 Gallons per Hour

Goulds "Pyramid" Pump has for years been a reliable source of water supply where hot and cold running water is required in large quantities. And now in the new "Improved Pyramid" we offer a pumping unit to meet modern demands for attention-free, trouble-proof equipment—with points of superiority never before incorporated in a pump of this type. This new pump is fully described on pages 33 to 35.

The outfit at the left is a complete water system

built around the "Improved Pyramid" and connected to the motor with a Silent Chain drive. While not so flexible as the belt drives, this style of drive is the best of its kind on the market, fully guarded for safety.

This system complete with fittings and control accessories, ready for installation will furnish a satisfactory water supply in quantities sufficient for large farms, dairy plants and public or private institutions where city water service is not available.

Operation

Pressure in the storage tank causes water to flow when a faucet is turned on. When the tank pressure lowers to 23 pounds, the pump starts. When the pressure rises to 43 pounds, the pump stops. Complete automatic control is obtained by means of an

electric pressure switch mounted on the tank. The proper amount of air in the tank is always maintained between these limits by the Automatic Air Volume Control. This eliminates possibilities of an air-bound or water-logged tank.

Equipment

No. 7412 CAT: Complete with "Improved Pyramid" 2" x 2" pumping unit, as illustrated, for pressure service; motor for 110-220 volts, 60 cycle, single phase, A.C. or 110 or 220 volts D.C.; enclosed Morse Silent Chain Drive; 42-gallon steel tank galvanized inside and out (see "Extra Equipment" below); Automatic Air Volume Control; pressure switch, pressure gauge, air valve, relief valve, and galvanized piping and fittings for Automatic Air Volume Control, pump and tank.

600 gallons per hour— $\frac{1}{2}$ horsepower Motor.

750 gallons per hour— $\frac{3}{4}$ horsepower Motor.

Specify capacity and motor size required.

FOR SHALLOW WELLS: Suction lift 22 feet.

Suction and discharge openings— $1\frac{1}{4}$ inches.

Floor space—36" x $32\frac{3}{4}$ " x 50"

Specify voltage, cycles, phase and whether A.C. or D.C.

Supplied only for motor ratings listed.

For Prices—See Price Sheet.

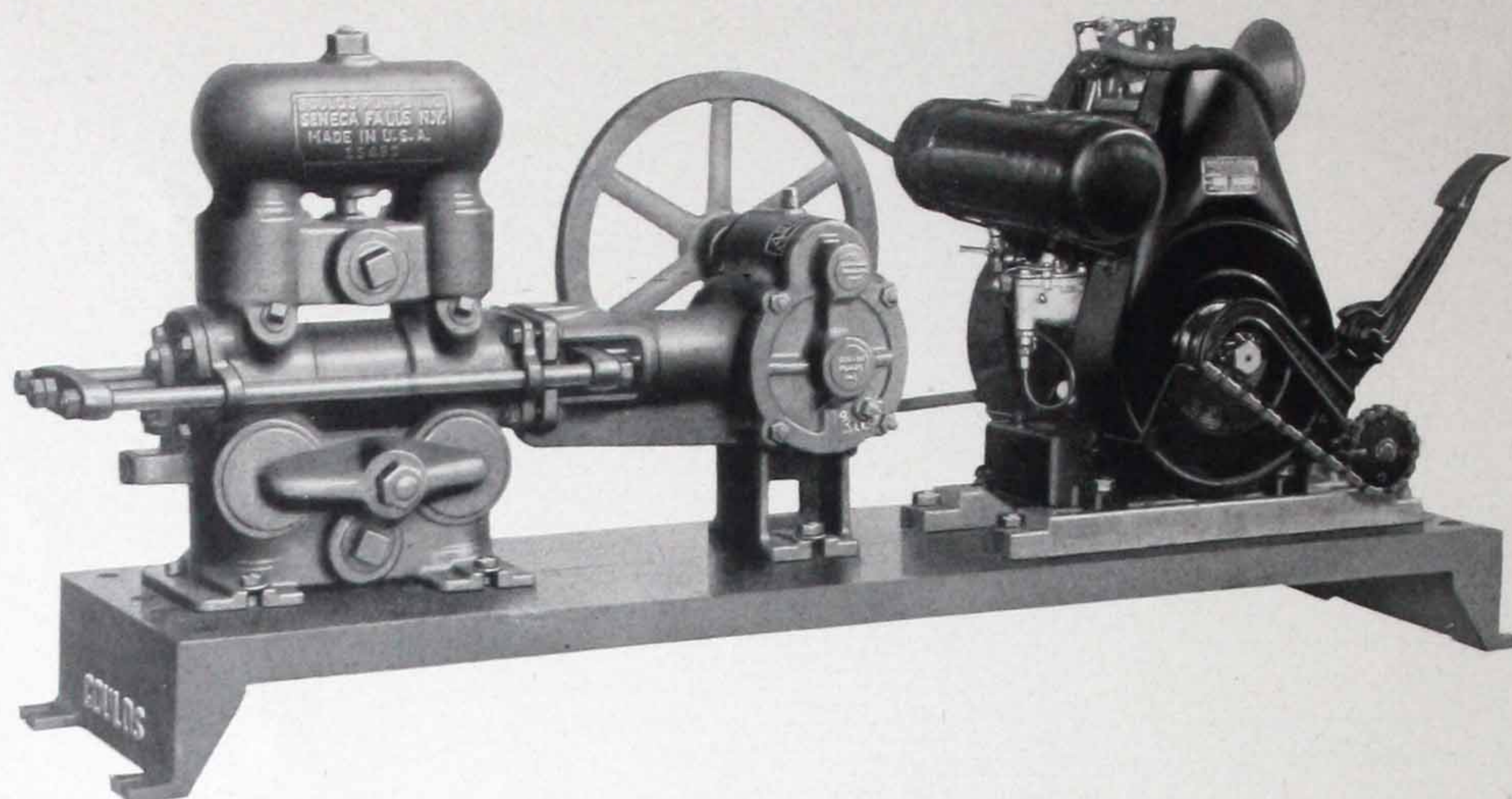
Extra Equipment

Goulds Fig. 760, 1-inch galvanized Foot Valve and Strainer. Storage tank is supplied only as listed. If a larger tank is

wanted, order No. 7412CA, with size tank desired and necessary fittings. For Prices—See Price Sheet.

We can furnish pumping units of any capacity for water supply. If you do not find listed in this catalog the capacity outfit you desire, write us stating your requirements. Use information sheet at back of catalog.

GOULDS SHALLOW WELL WATER SYSTEMS



2" x 2" V-Belt Engine Driven Pumping Unit

GOULDS

"Improved Pyramid"

V-Belt Engine Drive

Capacity 600 Gallons Per Hour—54 Pounds Pressure

This unit fills a long-felt need where it is desired to install a large capacity water system and neither central station current nor private electric power is available. If, however, electric power should later become available, an electric motor may be substituted for the engine.

The Goulds "Improved Pyramid" is the same pumping unit in every respect as those used for our

electric driven outfits, but is connected with a gasoline engine of the same make and type as used on our EVER-OILED Outfits shown on pages 24 to 27.

The outfit shown above has a capacity of 600 gallons per hour against 100 feet or 54 pounds pressure. The engine is $\frac{3}{4}$ horsepower, vertical, 4 cycle, air-cooled, magneto type equipped with an easy foot starter which anyone can operate.

Operation

This unit can be used for a variety of industrial, farm, or other services for general water supply. Or it may be used with open overhead tanks with automatic float control to stop the engine at the high tank level. Used with a pressure tank, an automatic gasoline engine cut-off switch will short circuit the

engine at 54 pounds. Tanks should be large enough to hold one day's supply, as the engine must be started by hand. We recommend tanks of 315 gallons capacity or larger. When used for pressure tank service, we supply an air valve for pumping air and a relief valve.

Equipment

No. 7412 E: Includes "Improved Pyramid" 2" x 2" pumping unit as illustrated for open tank service. V-belt driven by $\frac{3}{4}$ horsepower gasoline engine of vertical, air-cooled, 4-cycle type with built-in magneto, enclosed fan and easy foot starter.

No. 7412 EA: Same as above but for pressure tank service and including air valve and relief valve.

FOR SHALLOW WELLS: Suction lift 22 feet.

Suction and discharge openings—1 $\frac{1}{4}$ inch.

Floor space—16" x 56 $\frac{1}{2}$ " x 22 $\frac{1}{4}$ " high.

For Prices—See Price Sheet.

Extra Equipment

Automatic Float Switch complete with float, 5-ft. rod and stops.
Automatic Gasoline Engine Cut-off Switch. Pressure Gauge.

Water Gauge. Goulds Fig. 760, 1-inch galvanized, Foot Valve and Strainer. For Prices—See Price Sheet.

How To Compute Water Requirements For the Average Installation

When selecting a Goulds Water System for a given installation, the first and most important consideration is the amount of water needed. The table below gives the average quantities of water required in a day for the different services demanded of a water system.

For each member of family (total average daily consumption allowing for kitchen, bathroom, laundry and some sprinkling).....	35	gallons a day
*For each cow.....	30	gallons a day
For each horse (winter, 4 to 8 gallons; summer, 8 to 18 gallons)	15	gallons a day
For each hog.....	2	gallons a day
For each sheep.....	1½	gallons a day
For each 100 chickens.....	2½	gallons a day
For sprinkling (½ inch hose).....	200	gallons an hour
For sprinkling (¾ inch hose).....	275-300	gallons an hour

(10 gallons will *sprinkle* 100 sq. ft.; 20 gallons will *soak* 100 sq. ft.)

* Statistics show that high producing cows sometimes drink as much as 35 to 40 gallons a day.

Pressure tank capacities normally range from 30 to 220 gallons. A 42-gallon galvanized tank is most commonly used, as it supplies a reliable air cushion for the pump and the pressure switch to operate against. This size also seems to fit most conditions. Larger tanks are more expensive; but their use allows fewer starts and stops, greater storage capacity to meet peak demands, and, in sizes above 1,000 gallons, a certain amount of fire protection, provided the pump, motor and wiring are located so as to be protected against fire damage.

To determine average daily water requirements, check over your daily routine and list the gallons required as tabulated above. Having determined the day's supply, it is a good rule to figure running the pump about two hours per day. This will indicate which size pumping outfit to select. It is much better and more economical to use a pump a little larger than seems to be required, rather than a smaller one.

Next, see what the maximum demand might be for any one short period—an hour, for instance. Then make sure that the pump's hourly capacity is greater than the peak hour demand.

The following example will illustrate the above:—

5 persons, averaging 35 gallons a day.....	175	gallons
2 horses, averaging 15 gallons a day.....	30	gallons
12 milk cows, averaging 30 gallons a day.....	360	gallons
6 hogs, averaging 2 gallons a day.....	12	gallons
100 chickens, averaging per day.....	2½	gallons
Sprinkling, one ¾ inch hose, 3 hours at 300 gallons an hour.....	900	gallons
Total gallons required per day.....	1,479½	gallons
Average gallons required per hour (for 12 hours)...	124	gallons

The peak hour, of course, would be reached when sprinkling, when the average quantity of water used would probably amount to between 300 and 400 gallons. Thus, for safety and economy it would be advisable to select an outfit with a capacity of 420 gallons per hour.

GOULDS SHALLOW WELL WATER SYSTEMS

Friction Loss in Piping

Friction loss in the flow of water through pipes is an ever-present factor in water system installations.

Where the actual suction lift is close to the shallow well pump limit of 22 feet, or where a long pipe line—100 feet or more—is required either on the suction or discharge side of the pump, the friction in the pipe or pipe fittings acts the same as an increase in the height the water must be pumped. This friction loss must therefore be considered in figuring the pump head. The tables below give the actual friction in feet-head for pipe and elbows. Other information on friction loss will be found on page 6.

Friction of Water in Pipe and Fittings

IN STRAIGHT PIPE

(Based on Use of 15-Year Old Ordinary Iron Pipe)
Loss of Head in Feet per 100 Ft. Length of Pipe

Size of Pipe (Inches)	GALLONS PER MINUTE								
	1	2	3	4	5	10	15	20	25
1/2	2.1	7.4	15.8	27	41	147			
3/4		1.9	4.1	7.0	10.5	38	80	136	
1			1.26	2.14	3.25	11.7	25	42	64
1 1/4				.57	.84	3.05	6.5	11.1	16.6
1 1/2				.26	.40	1.43	3.0	5.2	7.8
2	If Pipe Lines are long, it is advisable not to exceed the values given to the left and below the Heavy Black Line.					.50	1.08	1.82	2.73
2 1/2						.17	.36	.61	.92

IN FITTINGS

Equivalent Length of Straight Pipe

Size of Fitting (Inches)	TYPE OF FITTING					
	Std. 90° El.	Strainer	Foot Valve	Gate Valve	Check Valve	Globe Valve
1/2	5	5	5	2	5	10
3/4	6	5	5	2	5	12
1	6	5	5	2	5	15
1 1/4	8	8	8	3	8	20
1 1/2	8	8	8	3	8	23
2	8	8	8	3	8	25
2 1/2	11	10	10	4	10	30

Friction loss through 45° elbows is approximately half the loss through 90° elbows.

CONVERSION FACTORS

Feet Head $\times .434$ = Lbs. Pressure Per Square Inch. Lbs. Pres. $\times 2.31$ = Feet Head. Meters $\times 3.28$ = Feet Head. U. S. Gallons $\times .833$ = "Imperial" Gallons. Imperial Gallons $\times 1.2$ = U. S. Gallons. Cubic Feet $\times 7.48$ = U. S. Gallons.

EXAMPLE OF USE OF FRICTION TABLES:

What is Loss due to Friction, in Lbs. per Sq. Inch, when pumping 4 gallons per minute through 200 feet of 3/4 inch pipe with 8-90° elbows, 1 Foot Valve and Strainer, 1 Gate Valve and 1 Check Valve?

Total Equivalent Length of Pipe = 200 + (6 $\times$ 8 Elbows) + 5 + 5 + 2 + 5 = 265 Ft. of Pipe or 2.65 Hundred Feet Pipe. Friction Loss in Feet Head = 2.65 $\times$ 7 = 18.5 Feet Head Loss = 18.5 $\times$.434 = 8 lbs. Pressure Loss in Head.

Head and Pressure Equivalents

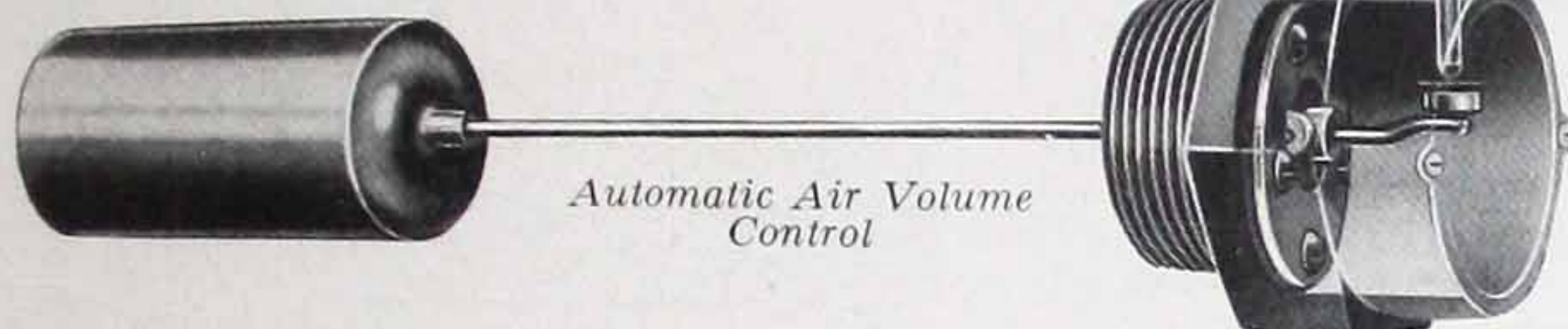
Feet Head of Water and Equivalent Pressures

Feet Head	Pounds per Sq. In.	Feet Head	Pounds per Sq. In.	Feet Head	Pounds per Sq. In.	Feet Head	Pounds per Sq. In.
1	.43	60	25.99	160	69.29	250	108.27
5	2.17	80	34.65	180	77.96	300	129.93
10	4.33	100	43.31	200	86.62	350	151.58
20	8.66	120	51.97	225	97.45	400	173.24
40	17.32	140	60.63				

Accessories for Shallow Well Water Systems

Automatic Air Volume Control

All complete pressure systems are equipped with the Automatic Air Volume Control—a dependable device which automatically maintains the proper volume of air in the pressure tank—and prevents water-logging or air-binding of tank. The air supply needs no watching and manual admission or discharge of air from the tank is unnecessary. Screws into 1 1/4-inch tapping in Goulds pressure tanks. Complete with necessary tubing and fittings for connecting with pump. Pressure gauge not included.



Automatic Air Volume Control

Sentinel Breaker

Burned-out motors, resulting from low voltage, overloads, closed valves, etc., which fuses fail to care for in time to save the motor, are best prevented by installing a Sentinel Breaker. Can be furnished for 1/4, 1/3, 1/2 and 3/4 horsepower motors of any rating. When ordering, specify horsepower of motor, also current characteristics and motor nameplate readings.



Sentinel Breaker



Pressure Switch

Pressure Switches

Used for automatically maintaining desired pressure in pneumatic tanks. Two-pole type of well known make. Thoroughly reliable. Factory-set to close the circuit at low pressure and open at the higher pressure. Two settings available.

No. 430—Setting 23–43 pounds.

No. 750—Setting 55–75 pounds. Can be adjusted up to 100 pounds or down to 50, maintaining 20 pound differential.

Pressure Switch No. 750 is only supplied separately and will not be substituted on any systems or units in this catalog. It is listed as a convenience for those who are building their own water systems to meet special conditions.

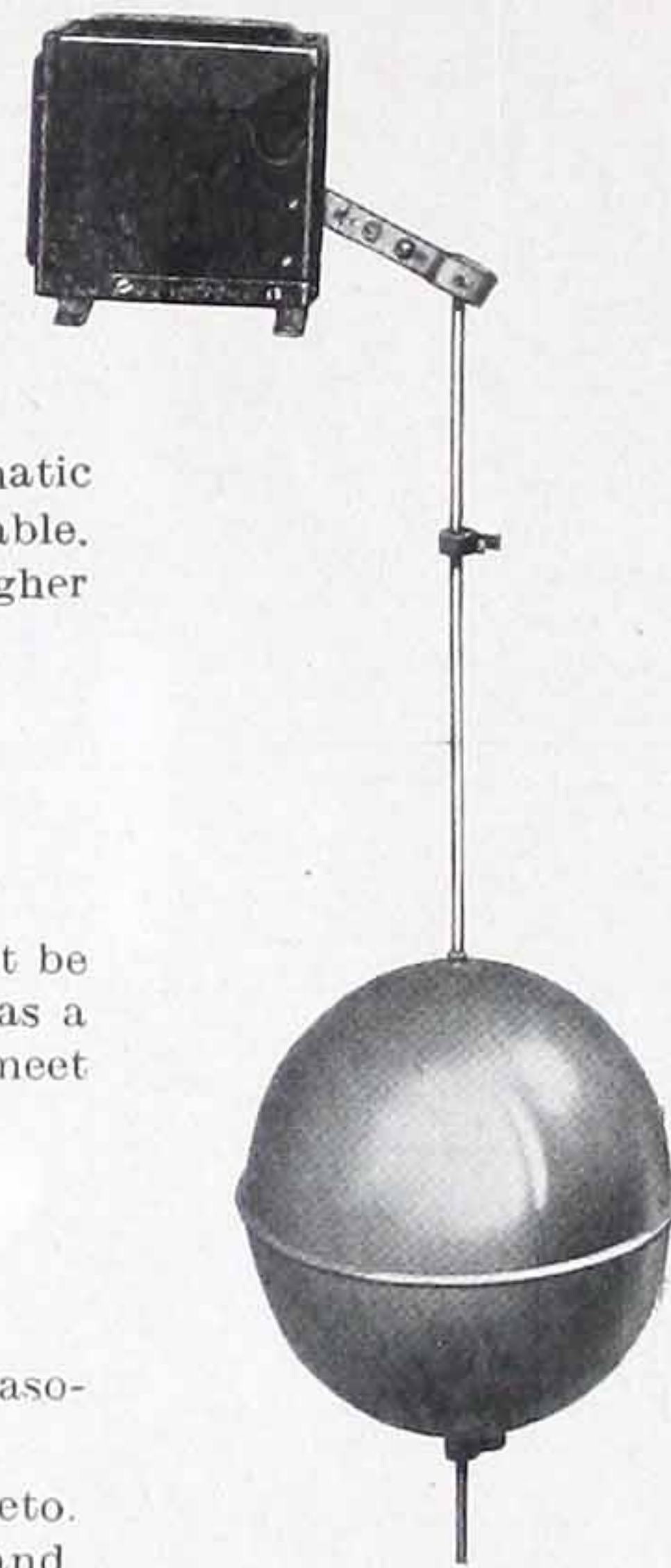
Gas Engine Cut-off Switch

Similar to pressure switch but used for automatically stopping gasoline engine when desired pressure is reached.

These switches should be used only on low tension side of magneto. Set to short-circuit ignition circuit at 43 pounds. Must be reset by hand.

Float Switch

For use with an open overhead tank. Automatically maintains any desired water level in tank. Does away with troublesome hand control. Comes in two types; one arranged to open motor circuit, the other to short-circuit engine ignition, at high water level in tank. Specify which type is wanted. Use on low tension side of magneto only. Complete with float, 5 ft. rod and stops.



Float Switch

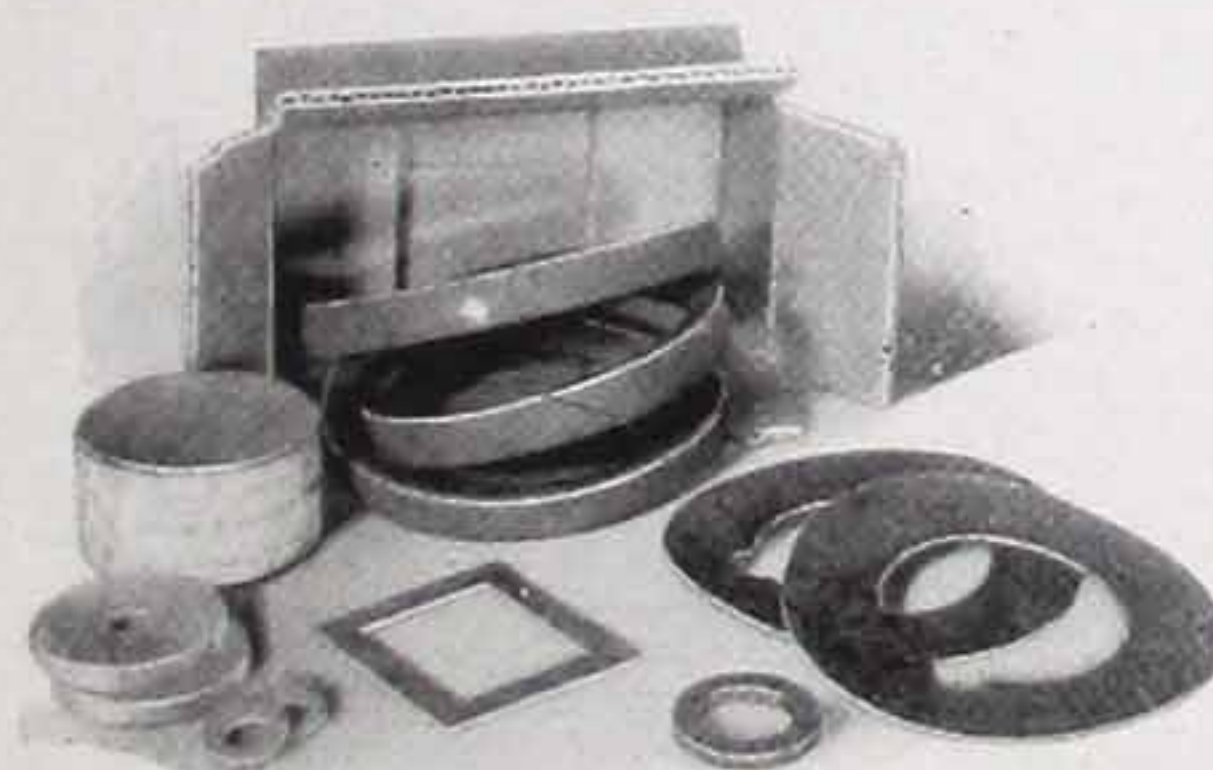


Fig. 1784. Repair Kit

Figure 1784 Ever-Oiled Repair Kit

A convenient assortment of parts as illustrated at a special price—Consists of complete set gland packing, two valve plate gaskets, gasket between valve box and cylinder, two rubber valve discs, two rubber valve bumpers, priming plug gasket and spare V-belt. Packed complete in fibre carton. Two sizes. Specify pump capacity.

Figure 1741 "Improved Pyramid" Repair Kit

Consists of complete set gland packing, four rubber valve discs, cylinder head gasket, crankcase cover gasket, hand-hole gasket, two valve cover gaskets, two air chamber gaskets, two gaskets for partition between power end and cylinder. Specially priced. Packed complete in fibre carton. Very handy to take out on service jobs.



Fig. 1741. Repair Kit



Pressure Gauge

Pressure Gauge

For use on all Autowater Systems. 0 to 100 lbs. pressure. Threaded 1/4-inch male pipe.

Accessories for Shallow Well Water Systems

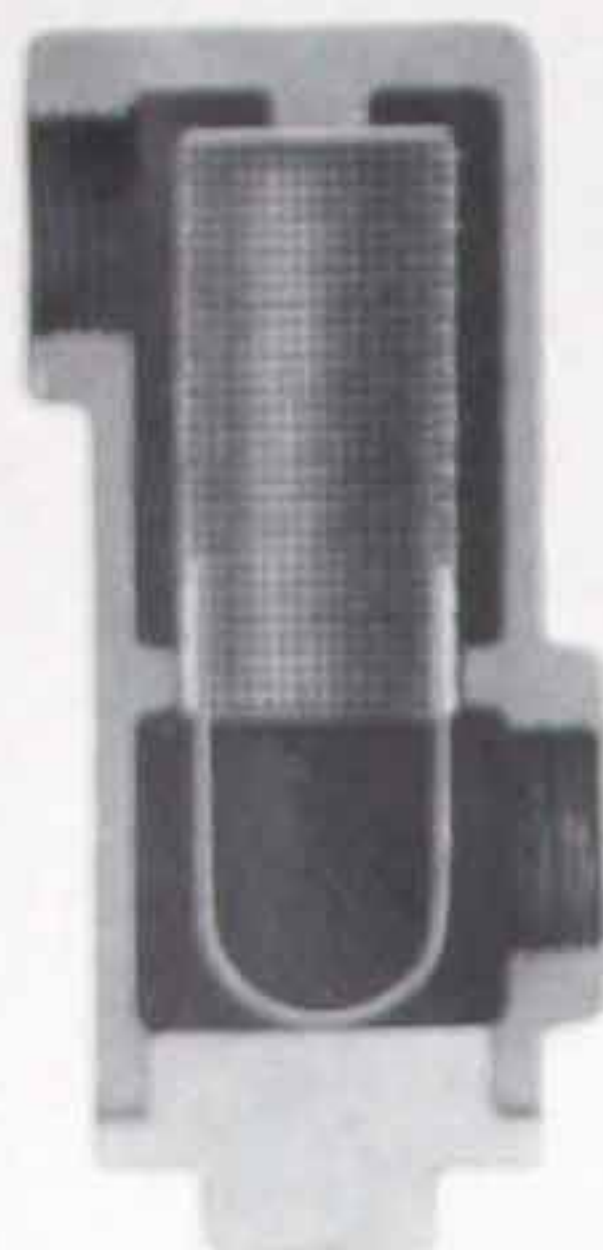


Fig. 1793
Suction Strainer

Foot Valves and Strainers

Foot valves and strainers are used in connection with shallow well pumps on the end of the suction line. The foot valve relieves the suction valves of the pump, prevents loss of prime and assures more satisfactory operation of the pump. The strainer prevents broken sticks, leaves and other particles from entering into the suction line and clogging the pump. All Goulds foot valves and strainers are of liberal design with ample water passageways. A number of Goulds foot valves and strainers are shown. When ordering give figure number and size of suction pipe; also whether plain or galvanized.

Special Suction Strainer

Fig. 4793—designed especially for use with Fig. 1784 EVER-OILED pumps. Attaches to priming chamber suction inlet. Unusually large strainer area without sacrificing straining capacity. Brass wire screen easily removed from bottom for cleaning without disturbing the piping in any way. Drain plug at bottom permits easy drainage, flushing and cleaning. 1-inch pipe connections.



Fig. 742
Check Valve



Fig. 667

Check Valves

For use in discharge line from pump. Leather flap type, quiet and tight. Long life is assured. Available for installation in both horizontal and vertical pipes. In ordering give Fig. No. and pipe size. Also whether plain or galvanized.

Water Gauge

A gauge developed by Goulds especially for water system requirements. The lower fitting is provided with 1/4" pipe openings for the pressure switch and pressure gauge, thus making the connections to these instruments in the easiest manner possible and below the water level. This eliminates trouble from air leakage. The drain cock and guard rods are standard equipment. In ordering separately, specify center distance of 1/4-inch tappings in tank. A 1 1/4 x 1/2-inch bushing is supplied to bush the lower 1 1/4 inch tapping of Goulds tanks, when ordered. Upper and lower connections 1/2-inch pipe.



Water Gauge

Ball Check Air Valve

For use in pumping air with EVER-OILED pumps operating under suction pressure and for all "Improved Pyramid" pumps. Supplied as standard with "Improved Pyramid" pumps for pressure tank service. Order number A-1 for use without Automatic Air Volume Control. Order number A-2 for use with Automatic Air Volume Control. The latter number is arranged with 1/4-inch female connection for tubing fitting from the control.



Foot Valves and Strainers

Drive Well Points

These well points are made of galvanized iron pipe with forged steel points. Fig. 524 made with elliptical holes of uniform size punched an equal distance apart, contains the greatest number of holes possible to punch in a pipe and yet retain sufficient strength for driving. Covered with brass wire cloth which is protected by a heavy perforated brass jacket.

On Fig. 661 the holes are bored and countersunk. Each hole is covered with brass wire gauze held in place by a brass washer.

A malleable iron drive cap, Fig. 510, is screwed over the end of drive pipe when driving a well.



Fig. 510



Fig. 524
Fig. 661
Drive Well Points

Relief Valve

(Illustrated on page 16)

Spring controlled valve used to safeguard the pump against excessive pressure. Every pump must have a relief valve installed in the discharge line close to the pump and between it and any valves. When ordering, specify size. For pumps with capacities up to 750 gallons per hour, 1/2 inch; over 750 gallons, 3/4 inch.

Fresh Water Spring Check Valve

(Illustrated on page 14)

Used to convert a regular pressure outfit into a combination fresh water and storage supply system. Installed in the piping between pump and storage tank, it prevents water in the tank from mixing with the fresh water when the pump is handling water direct from well to faucets, and permits the pump to start as soon as the fresh water faucet is opened. 1/4-inch iron pipe connections.

Other Pumps Used in Connection With Outfits Shown in This Catalog



Fig. 1720

GOULDS makes a complete line of hand operated pumps and pump accessories for every known purpose. These are described in our Catalog P, which will be forwarded upon request.



Fig. 1035

Anti-Freezing Hydrants and Curb Boxes

Where water is required for sprinkling, washing automobiles and similar outside purposes, a Goulds Anti-Freezing Hydrant or Street Washer offers a desirable outside tap. Can be placed outside garage door, located to fill stock watering trough or at any convenient place for hose or watering purposes.

The Street Washer top lies flush with the ground and can be placed in the driveway or anywhere on the lawn without being an unsightly obstruction. All fitted for $\frac{3}{4}$ " pipe and $\frac{3}{4}$ " hose.

Fig. 1720 is the most widely used hydrant in America. Will not freeze. Can be repaired without digging up. Brass valve parts.

Fig. 1721 Street Washer is the same construction as Fig. 1720 Hydrant, but with Curb Box which fits flush with the ground. Operated by a key supplied with each box.

Fig. 860 is a low-priced, light-weight hydrant built with two pipes, one dry for the valve rod and the other for water passage to the spout. Water pipe drains dry when valve is closed.

Fig. 861 Street Washer is the same construction as Fig. 860 Hydrant, but with Curb Box top. Key supplied.

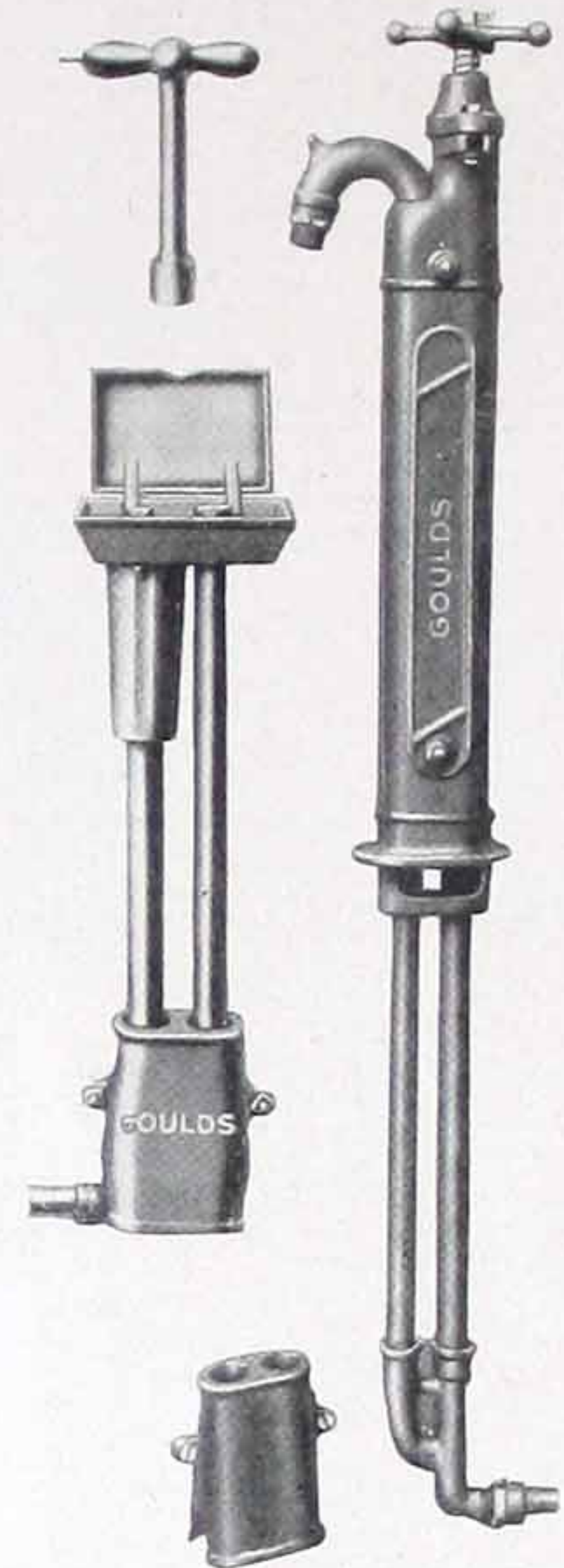


Fig. 861 Fig. 860

Hydraulic Pressure or Test Pump

For testing pipes, storage tanks and fittings on Water Systems installations Fig. 867 is used to give the final pressure test. Also used for testing boilers, casks and similar purposes. A pump made of the highest grade materials and constructed to conform to Goulds standards of reliability. Brass valves and seats. Working pressures up to 700 lbs. 1" pipe. Specify maximum pressure desired.



Fig. 867

Plumbers' Brass Force Pump

Fig. 1035—a reliable pump for removing obstructions in pipes. A handy article for the service man who is called upon to clean out blocked water pipes. Can be conveniently carried in tool bag. All brass, with 3 feet of hose and brass conical tip which can be connected to any size pipe from $\frac{3}{8}$ to 1 inch. Double leather crimp plunger. Foot piece extra.

Capable of developing 100 lbs. pressure.

"Lightning" Air Pressure Pump

Fig. 1210—a pump that is widely used for maintaining pressure in pneumatic tanks for water systems where the pump has no air attachment. The compound leverage makes it much easier to operate than the ordinary hand air pump. Especially desirable for large tanks. Brass valves and seats. Special hydraulic leather plunger. Regularly fitted $\frac{1}{4}$ inch pipe. Will operate against pressures up to 75 lbs.

For Prices—See Price Sheet.



Fig. 1210

TYPICAL INSTALLATIONS

These diagrams are inserted to help you in planning a water system installation and equipment. For complete details, see "Goulds Autowater Systems—Installation and Instruction Book."

Study these typical installation diagrams so that the best applications may be made and all necessary equipment ordered at once. Refer to them in communicating with us for recommendations or suggestions.

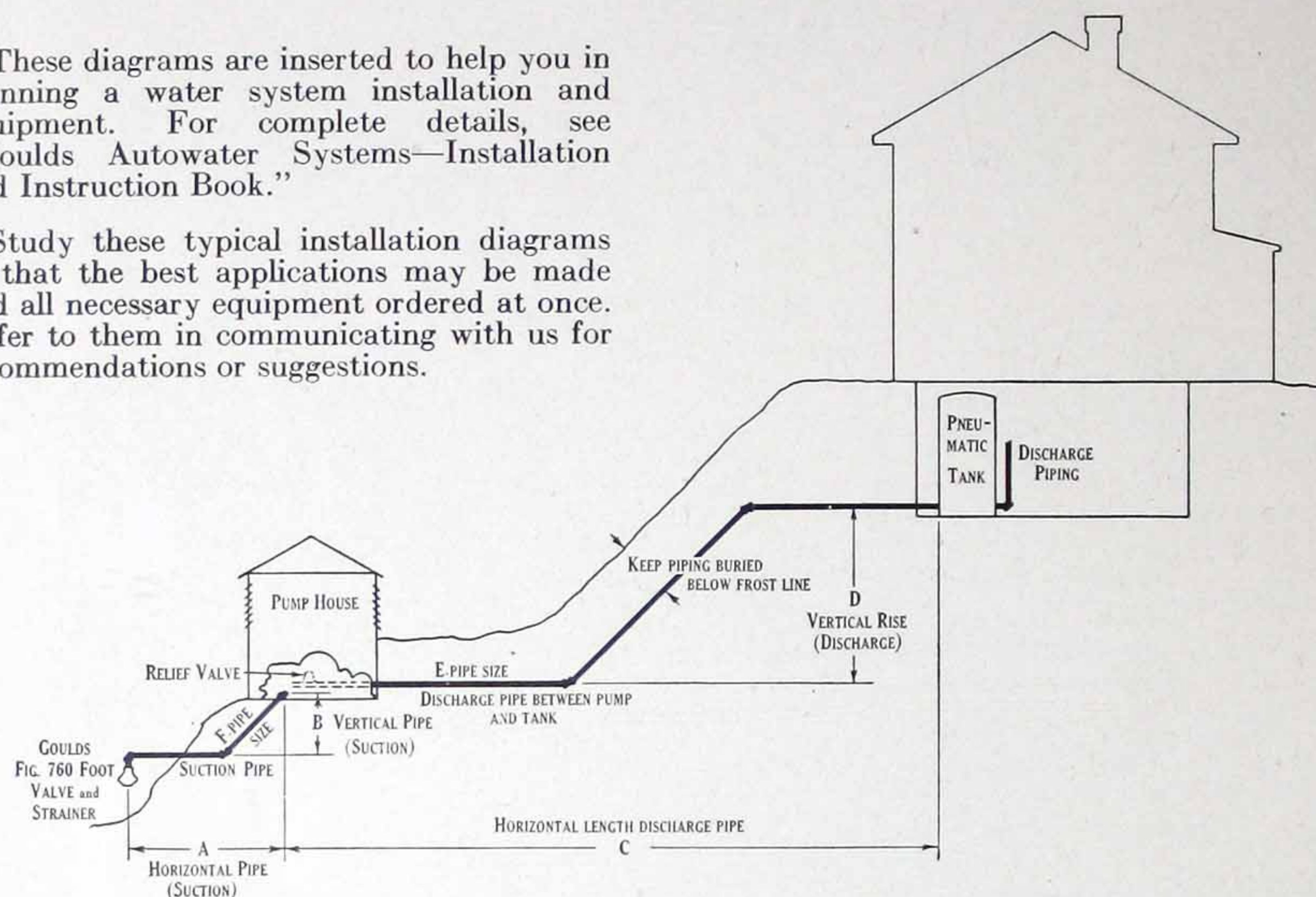


Diagram A—Installation Showing Tank and Pump Separated

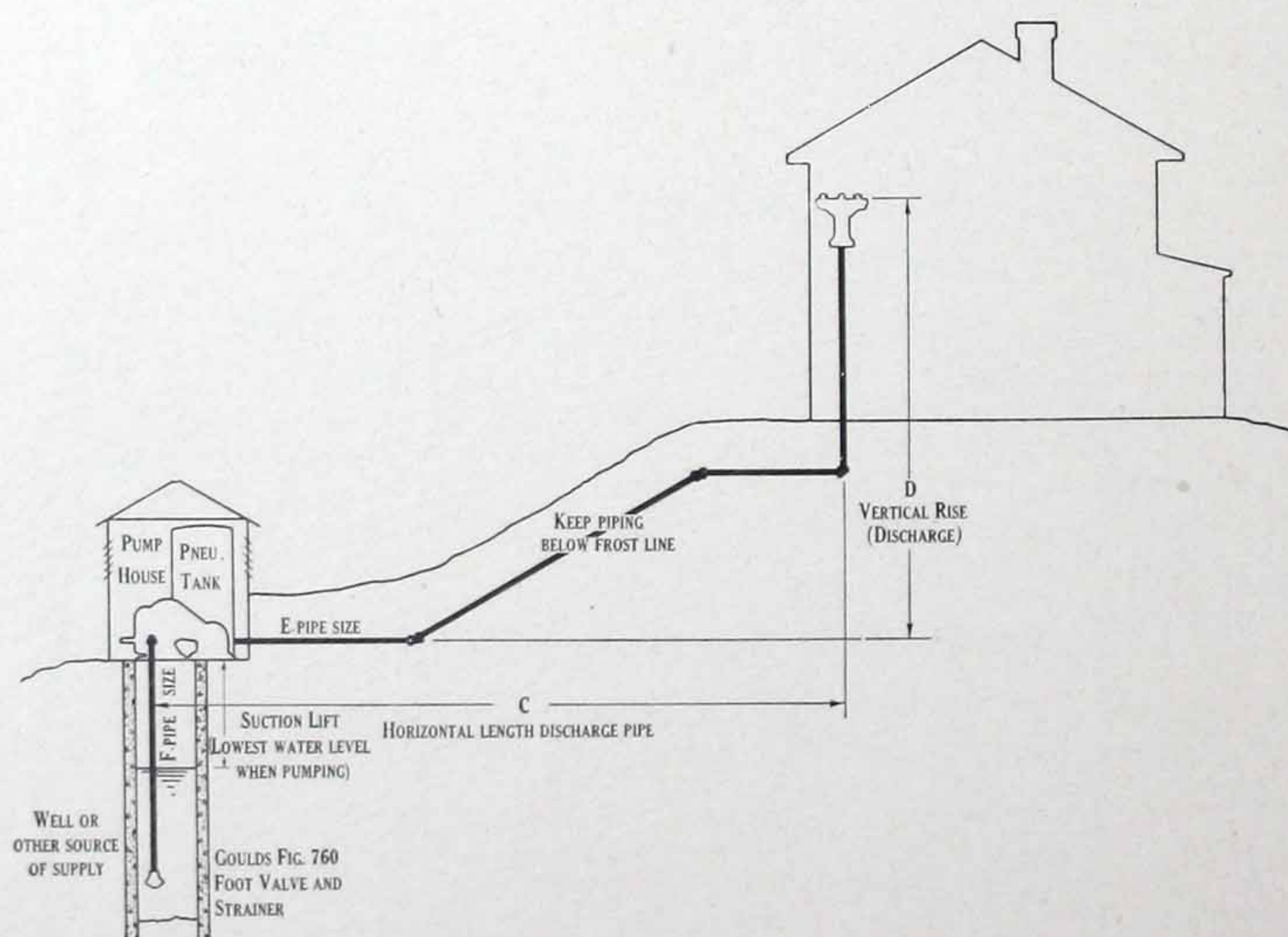


Diagram B—Installation Showing Pump and Tank at Source

TYPICAL INSTALLATIONS

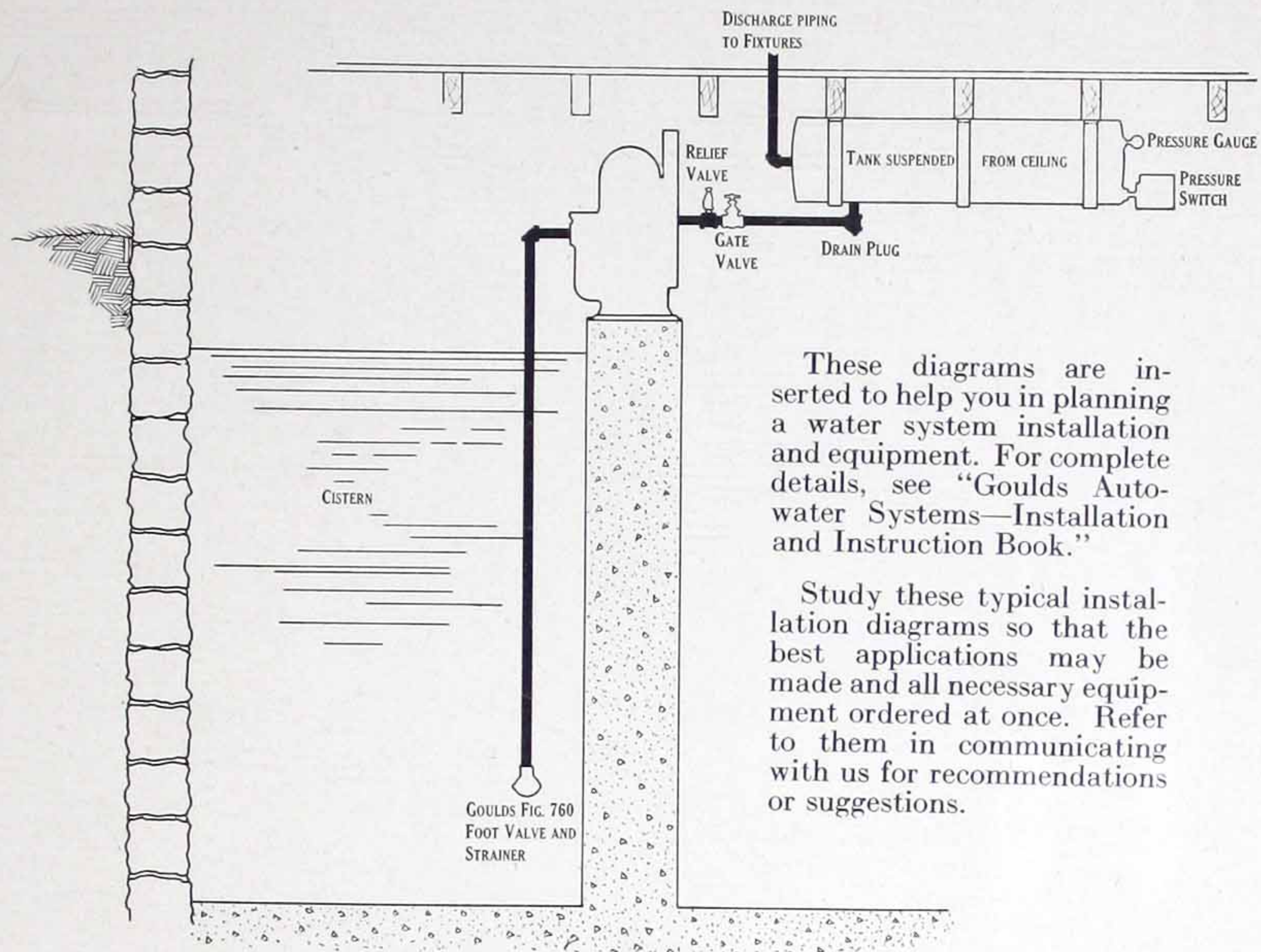


Diagram C—Best Type of Cistern Installation

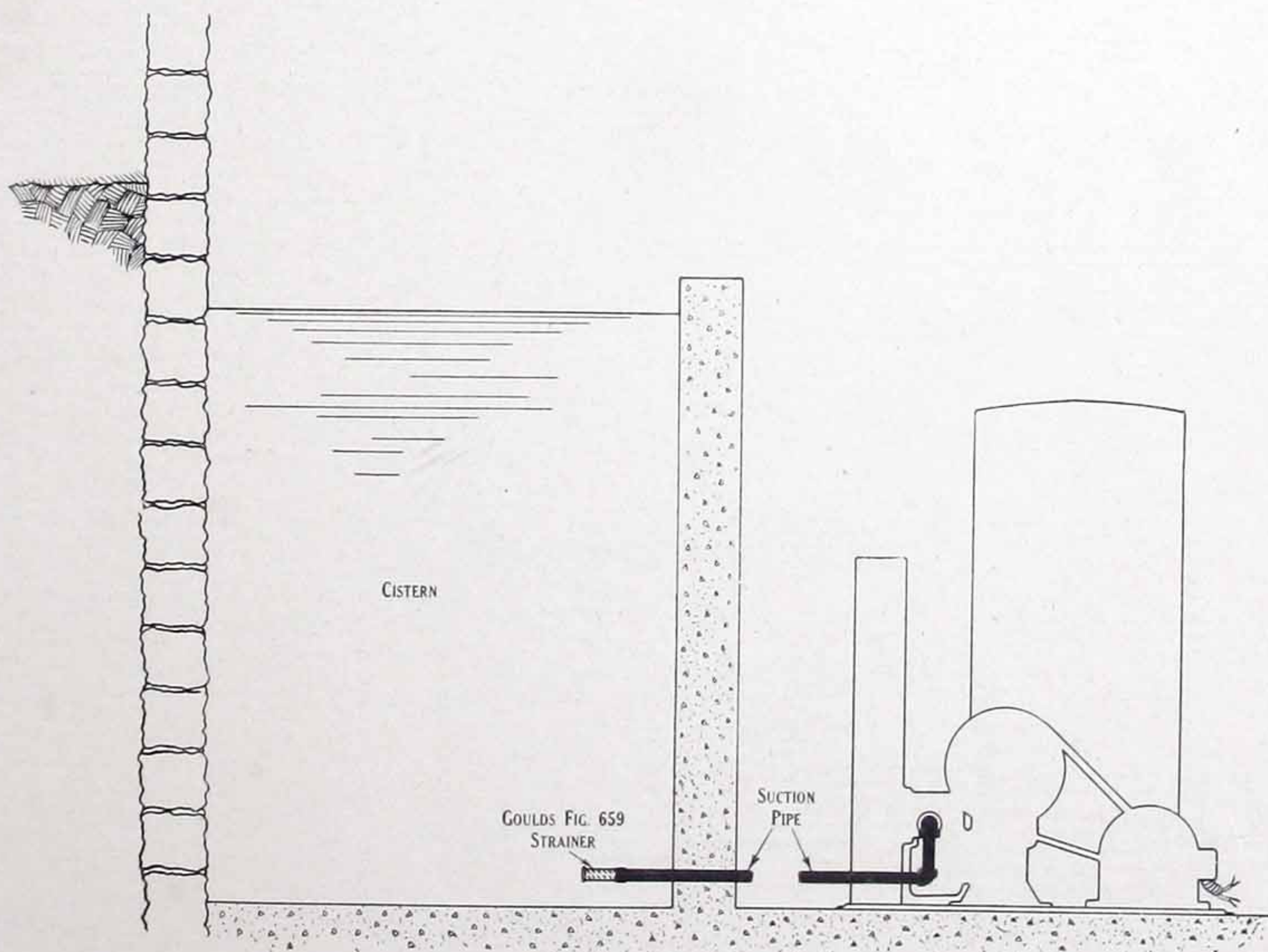
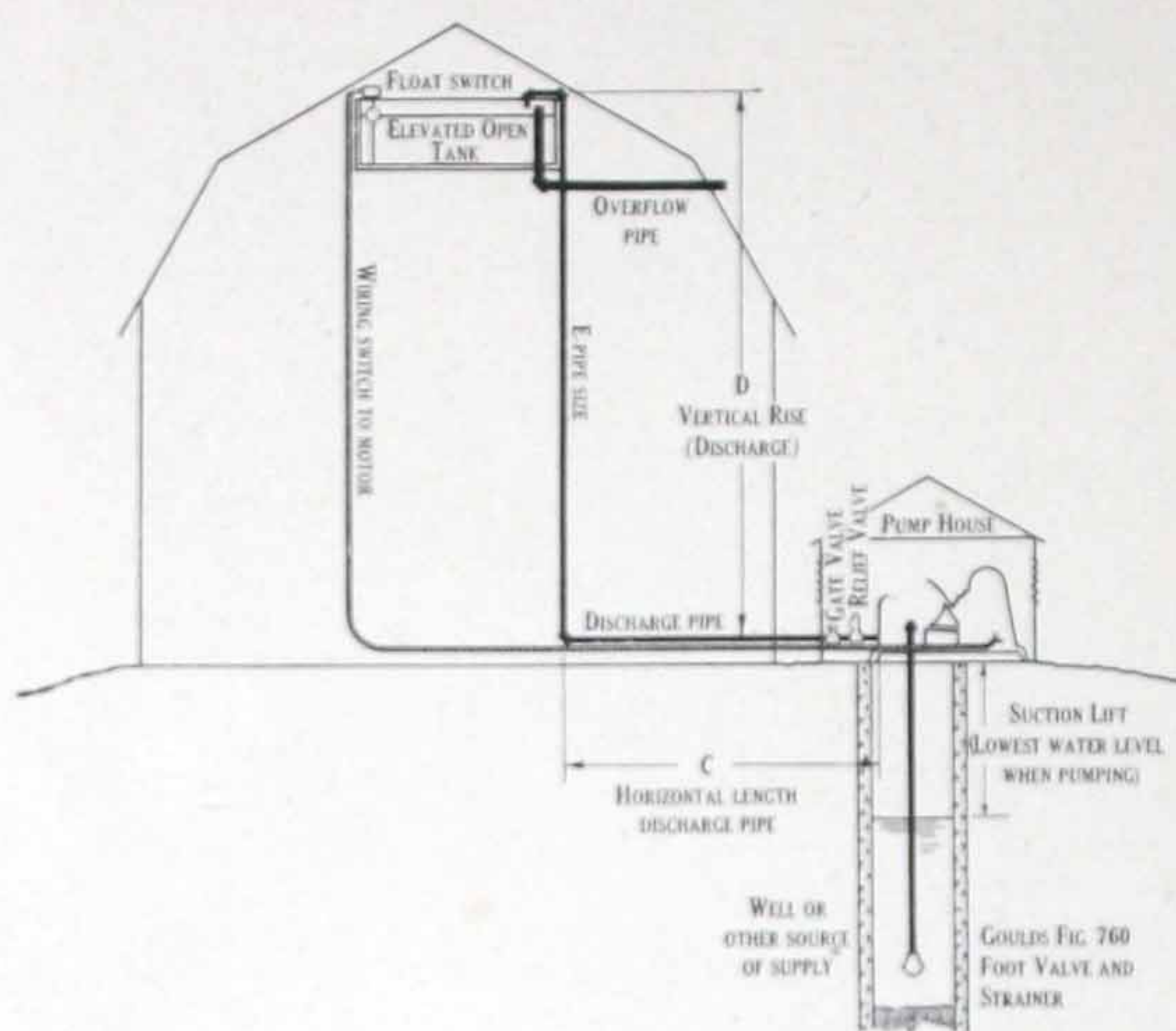


Diagram D—Good Type of Cistern Installation

TYPICAL INSTALLATIONS



These diagrams are inserted to help you in planning a water system installation and equipment. For complete details, see "Goulds Auto-water Systems—Installation and Instruction Book."

Study these typical installation diagrams so that the best applications may be made and all necessary equipment ordered at once. Refer to them in communicating with us for recommendations or suggestions.

Diagram E—Open Tank Installation

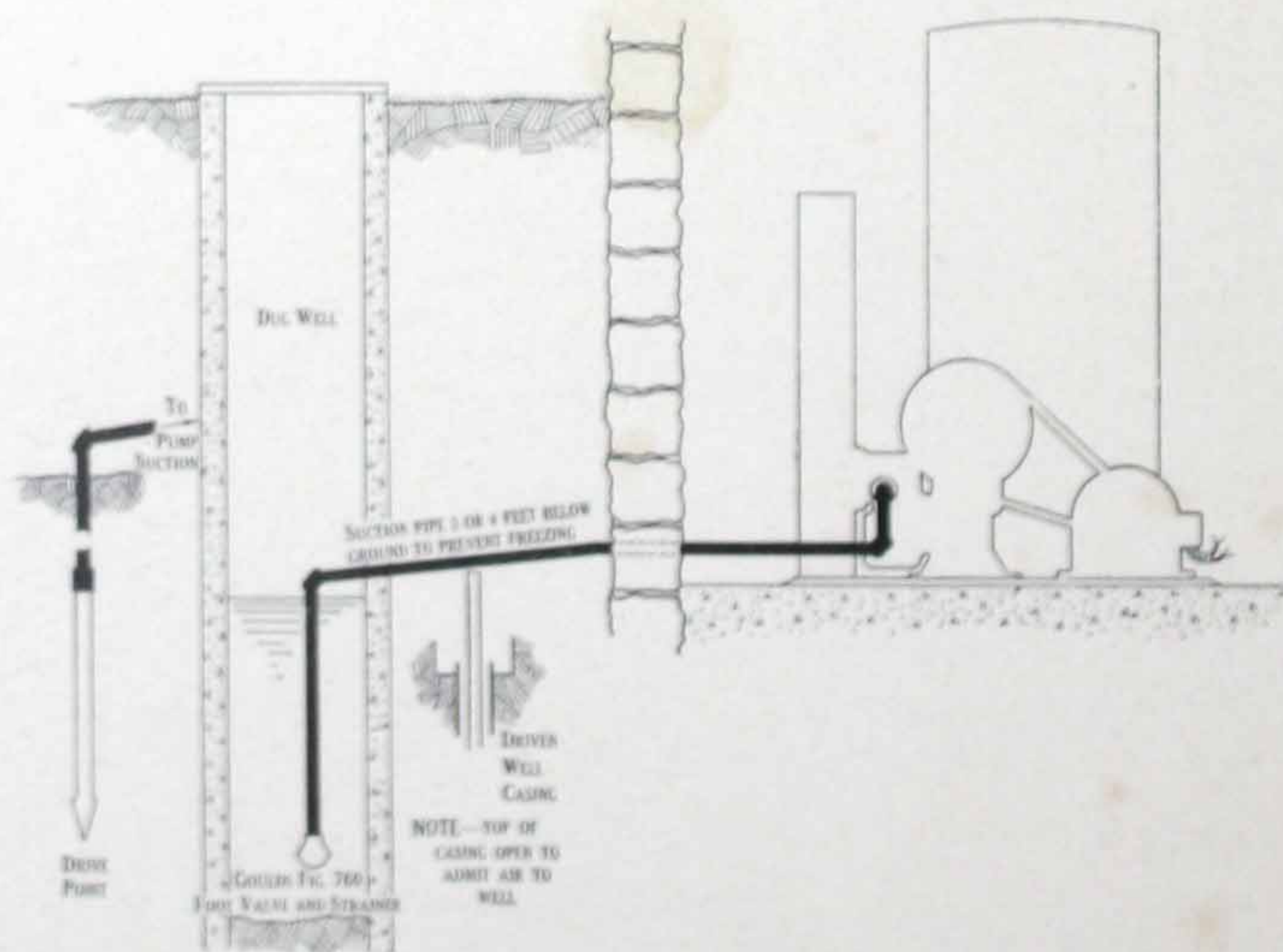


Diagram F—Dug Well, Driven Well or Drive Point Installation

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CCA

**In every room in
your house —
and outside too**

